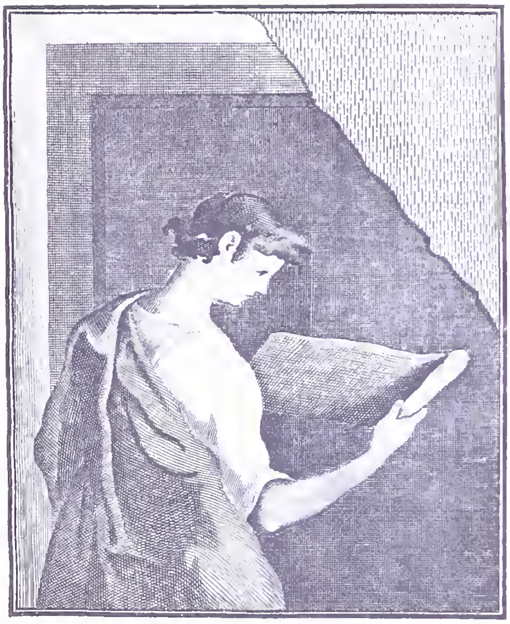

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PIERRE JOSEPH HUBERT CUYPERS,

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JOURNAL

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THE OPENING ADDRESS. Delivered by the President, Professor Aitchison, A.R.A., at the First General Meeting, Monday, 2nd November 1896.

Brother Architects, Ladies and Gentlemen,—

It has been said in words of authority that "to every thing there is a season." It seems to me that on this opening of a new year, other things may be put aside for a general view of the fine art we profess, and of its inventors. I say inventors, for it seems to me that architecture, even more than music, has been invented by man. Music, however it may have come about, has, up to a certain point at least, the harmonious tunes of singing-birds to imitate, however far it may have progressed since; while the shapes of leaves and flowers, of peaks and mountains, of glades and woods, and "arched walks of twilight groves," are certainly farther removed from finished masterpieces of architecture than an oratorio is from a choir of singing-birds—I say this in no boastful spirit, but as a circumstance, I suppose, generally acknowledged. I address myself to this subject in the thankful spirit that Dante felt when he looked at the stars, and in the ecstatic way in which Linnæus was affected when he saw the moor ablaze with blossoming gorse. I think the villager who said to the divine, "A thankful heart is the best worship an ignorant peasant can offer," was truly answered by the reply, "Or a learned prelate either"; and those divinely-gifted men, who created the architectural masterpieces of the world, were as much "heaven-sent" as the flowers or the stars. The sublime, lovely, or frowning pieces of architecture that still remain, besides the emotions they raised in the nation when they were built, have been a source of intellectual and æsthetic interest to all the cultivated since, and have been as well the means of raising the standard of excellence among semi-barbarous people, besides bearing witness to the past greatness and cultivation of the nation.

It would, perhaps, not be amiss to point out now, what the fine arts do for a nation; as, in the midst of our great material prosperity, their importance is apt to be overlooked. Those to whom all the fine arts are a closed book are apt to say, when pressed, "What do these much vaunted fine arts do for mankind? They merely help to while away an idle hour for those who profess to admire them." What they really do is this: they both instruct and charm mankind, in the only way in which the bulk can be instructed and charmed; for the bulk of mankind have little time to spare from earning their living.

They appeal to the emotions, and thus convey, almost unperceived, the lessons that should be taught. As an American writer * says, "It becomes a serious question whether, without art, the human race, in spite of the great work of science, would not sink into barbarism." They show to remote posterity the place a nation once held in civilisation; they give delight to those of each subsequent generation who are capable of feeling æsthetic emotion; and they form a standard by which the excellence of present work can be measured. As J. A. Symonds said, "Nothing is imperishable but high thought, to which art has communicated the indestructible form of beauty."

That astute tyrant, Augustus Cæsar, by humouring the whims of the poets of his time, and by encouraging architecture, came down, for twelve centuries at least, as the "good Augustus"; while Frederick the Great, by revenging himself on the avaricious caprices of Voltaire, has been handed down to us as "the image of some flaming devil's head, done in phosphorus on the walls of the black hole."

Just consider the wealth and luxuries of Greece, when it had received Alexander's plunder of Asia; of Rome when, besides the plunder it had taken, it enjoyed the taxes of those countries that extend from the Danube to the Lybian desert, and from Anglesea to the Tigris. What remains of all this wealth and all these luxuries? You might as well ask, where are last year's snows? A few poems and pieces of eloquence, a few statues and bas-reliefs, some engraved gems, coins, plate, and jewellery; a little music, a few buildings, and many crumbling ruins.

To those visitors who are not architects, but are patriotic, I may point out the supreme importance of architecture to a nation: the monuments marking the very places that once were great, and expressing the main characteristics of the nation. The poetry, the eloquence, and the music of the past become the cherished possessions of all civilised nations. The statues, the bas-reliefs, the engraved gems, the coins, the plate, and the jewellery are spread over the civilised world; the architectural monuments alone point out the places where the great life of the past nation once throbbed, and still enable us to penetrate the thoughts that created them, and to see the skilled handiwork of their people.

Every fine art is more or less the exponent of the tendencies of its time. This is peculiarly the case with architecture, as it is essentially a thing of the present; for, whether it be for mere use, for use and adornment, or for glory alone, it is to meet the urgent needs of the present. The poets may give us episodes from ancient Greece or Rome, from Egypt, Assyria, Persia, or the Holy Land, from the ancient Britons, or from the days of the Gothic invasion; the painters and sculptors may give us subjects evoked by their imagination from the past. But architecture must be of and for the present; past architecture is only to be found in the countries that produced it, or in the scenes of the theatre.

Unless the public will understand and highly appreciate architecture, how can they expect it to be good? For it is only by the people cultivating a knowledge of architecture, and so appreciating its beauties and emotional qualities, that a passionate love for its masterpieces can be engendered and the architects rewarded; for the architect's principal reward is the enthusiasm and gratitude his works excite.

Architecture as a fine art probably arose from man's desire to propitiate his deities, or to express his gratitude for their protection, and to immortalise himself and his nation, rather than from a wish to improve his dwelling or to adorn his public buildings. Doubtless, in the dim past before history was written, the main laws of architectural composition were discovered, such as proportion, repetition, and variety; while the value of contrast in form,

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* Mr. Leopold Eidlitz, *The Nature and Functions of Art.*

and in light and shadow, was probably a discovery coeval with that of these first laws, if it did not precede their discovery. The great pyramids of Gizeh are the grandest examples of contrast I know. On the first glimpse of them you are struck by the value they give to the long unbroken line of the desert, while their shape was possibly suggested to the architect by a triangular sail on the horizon.

Civilisation has been built up, as it were, grain by grain. It is like the coral reefs made by innumerable tiny and insignificant insects, yet which at last defy the might of the stormy ocean. So the fine arts are the crowns of the different phases of civilisation.

I am not going to drag you through the dim past, but only as far back as the Greeks, to whom we are indebted for the civilisation of Christendom.

That nothing comes from nothing is nowhere more apparent than in architecture. The Greek temples are but glorified reproductions of the two-roomed Greek hut surrounded by a verandah. The Greeks, or at least the Ionians, were endowed with the gift of *definiteness*, before them unknown to the world; and saving them, the world was still imbued with vagueness. The Attic Greeks were blessed with a love of beauty, endowed with high intellectual capacities and with every artistic gift. The Greek creed even now is excellent, the possession by each man of wisdom, courage, temperance, and justice. Their daring to withstand the tyranny of Persia, then the overwhelming power in the world, shows a courage and resolution that have never been matched; their victories at Marathon, at Salamis, and at Platæa appear to us miraculous; while their perfection in all the fine arts is still supreme. Their masterpieces in poetry, in oratory, in history, in sculpture, and in architecture have never yet been equalled, and if one of their great paintings should ever be discovered, we may expect to find it inimitable too. The restraint they exercised in using ornament, and the simplicity and purity they attained, make their masterpieces the standards for the world; and this perfection was not confined to what may be called the great fine arts, but was exhibited in the products of the common trades and in the meanest utensils. So imbued were they with the highest beauties of nature that when we see a fine specimen of the Indian water-nut, or the shell of the king crab, we say, These seem to be designed by a Greek artist. Simplicity, without which nothing great is achieved, was their constant aim. M. Anatole France has put this admirably; he says, we all know what is meant by a simple style, although it is really the most elaborate. Nothing, for example, is simpler than sunlight, yet, pure and white as it is, we know it to be composed of the seven prismatic colours. There is one thing to be remarked here, that this simplicity was easier to be attained when life was less complex, and wants were more restricted, than at present. The pose of the savage is generally nobler than that of civilised man; so the Greek temple, surrounded by similar columns and with its half-dozen mouldings, was possible to be perfected; while life is not long enough to perfect a building of many chambers and many storeys, with domes, towers, and spires to express complex emotions.

When Vitruvius gave rough rules for obtaining some of the Greek optical refinements in buildings, his meaning could not be understood by any architect or scholar in Christendom, from the days of Charlemagne until Wilkins published his solution in 1812; and it was left for my predecessor in the Chair, Mr. Penrose, to prove to the world the existence of these refinements in the buildings on the Acropolis. These refinements have made the Parthenon, the Erechtheum, and the Propylæa like Nature's work, which never palls; for by the prolonged study of them you only find fresh beauties and fresh wonders. Those who have seen these buildings, and have fitted themselves to enjoy them, are as thankful for them as for the beauty of the honeysuckle or the scent of the violet. It is quite refreshing to read the enthusiastic admiration of these monuments by so positive a philosopher as Renan.

The Roman race, which was but a branch of the Greek family, may be called the practical brother, who seized on every invention of others that suited him, and who had the great art of welding together a vast empire by diplomacy and laws. As Professor Mommsen says, it is ridiculous to complain of the Romans, because they could not carve like Phidias, or write like Aristophanes. The Romans were not born artists, but constructors, with a deep insight into the advantages of architecture, and who certainly achieved in their monuments dignity and magnificence. No artistically cultivated person has passed those still remaining columns of the Forum of Nerva without being struck with their dignity, nor the Triumphal Arches of Rome without appreciating their magnificence; while, from the combination of harmonic proportions with dramatic lighting, the inside of the Pantheon produces the most sublime effect in Europe. What sublimity, vastness, and proportion will produce, when every scrap of moulding, sculpture, and colour has been destroyed, may be seen in the halls of Caracalla's Baths.

The Romans brought the arch, the groined vault, and the dome within the pale of architecture. That continuation of Roman architecture we call Byzantine has not, as far as I recollect, produced many effective exteriors; for St. Mark's at Venice owes its external charms to the Middle Ages. Structurally the Byzantines perfected the dome on pendentives, and invented the dome on a drum, which they often used to light interiors and passages. Byzantine interiors, however, are mostly wonderfully striking in their shape, often delightful by their carving, splendid from the effects of lovely marbles, beautiful inlays, and gorgeous mosaics; they charm us as well by their judicious lighting.

The effect of vastness in Santa Sophia at Constantinople, with its dome "pendent by subtle magic," its suffused light, its peculiar and striking shapes, and the splendour of its decoration, make it one of the masterpieces of the world. Who would lose the glories of San Vitale, or the delicate sweetness of the Monastery in the Fields (Μονὴ τῆς χώρας); the plain and simple duomo of Torcello, or that jewelled casket of the West, St. Mark's? Who is not thankful for the mosques and minarets of Cairo, for the gorgeous chambers and courtyards of the Alhambra, with their intricate patterns, magic stalactites, and splendid colouring?

I do not attempt to give a list of all the masterpieces of the world since Greek days, but only to mention a few that I have seen and been struck with.

In Romanesque days architects were only learning to build and to design, but they were great men with grand thoughts. Who has not been struck with the Romanesque churches of Germany, with the doorway of Rochester Cathedral, with the naves of Durham and Southwell, and with the apse of Strasburg? Who would lose the fronts of St. Trophime at Arles, and St. Gilles; or the north-west doorway of the cathedral of Rouen, if this last can be called Romanesque?

At the emergence of Gothic in the thirteenth century, the architects had learned to build stone ceilings to churches in the shape of vaults, to abut their thrusts by flying-buttresses, and eventually to use stone with a mastery that was never possessed before or since; though perhaps a greater mastery over iron has been shown by our civil engineers. The Gothic architects were too, perhaps, the most logical that the world has seen. They lived at a time when the Greek and Indian geometry and mathematics were not only fashionable accomplishments, but studies for which there was a passion. Doubtless the Saracen buildings the mediæval architects had seen, gave them the idea of rivalling the monuments of their enemies; for it must be borne in mind that at the time of the Crusades the Saracens were the most civilised people in the world.

Men's minds in the West were then filled with a mysterious and terrible theology; while architects realised that their knowledge, skill, thoughts, and aspirations could only be expressed by building. We see how the violent emotions of hope and fear, and of adoration amounting to ecstasy, were expressed by interiors of disproportionate height, by lofty towers, spires, and pinnacles, by tracery as mysterious as the eddies of a stream, and relatively to the monument as fine as a spider's web; while the sculptor lavished his work on every part that was to be ornamented. There was then a passion for the excessive and the mysterious, a striving after the apparently miraculous. No architect ever goes into a Gothic cathedral without asking himself why it does not fall down. I suppose that architecture has never been so closely and persistently studied for so many centuries by energetic races, unfettered by national or clerical conservatism. Besides this, architecture and its accompanying arts then offered the only career except fighting to men who wished to exert every mental power without the fear of imprisonment and torture, or of death by fire.

Who is not thankful for these pages of history, in which the thoughts, tastes, and aspirations and terrors of the Middle Ages are, as it were, petrified for our observation and delight, and are spread over all Europe, even to the Fortunate Islands?

Who is not thankful for Notre-Dame, for Amiens, Reims, Coutances, and Rouen; for Lincoln, Salisbury, York, and Peterborough; for Toledo and Seville, and for the cathedral of Las Palmas; for the town hall and the cathedral of Siena; for the hospital, and for the bell tower of Giotto? If we want corroboration of mediæval history as written in its buildings, we have but to read Dante, one of the few great poets of the world, in whose *Divine Comedy* the spirit of the thirteenth century is enshrined.

Even in Dante's days a new phase of life was being prepared. We see that he had studied some of the Roman writers; these and others were to be still more deeply and more fervently studied after his death. Sculpture even then had got new life from the study of Roman remains, painting had begun to throw off Byzantine fetters, and there was a hungering after a knowledge of Greek, as the fountain from which Rome drew its inspirations.

Through the studies of scholars—and who at the latter part of the fourteenth century was not something of a scholar?—the whole vista of the life of classical antiquity was opened out to the Italians, and this world seemed to them suddenly changed from a prison full of misery and terrors into a lovely and fertile valley to be admired and enjoyed. They saw Greece and Rome bringing the uncivilised peoples of the earth to live under law, and teaching these savages the advanced arts of life. The Italians found in the classic writers a style they longed for but despaired of attaining; a skill and idealism in sculpture, in die-sinking, and in gem-engraving that threw them into raptures; monuments and ruins of a magnitude and majesty that astonished and charmed them; and an unchecked and blameless pursuit of all the pleasures of this life; not to speak of perfect freedom in the unravelling of the mysteries of nature. Is it surprising that they fell down before the feet of the ancients and worshipped them? This attitude was natural, though unfortunate; still we have lovely work by the quattro and early cinquecentisti, who were mostly goldsmiths, sculptors, and painters; though it was certainly not progressive architecture.

The host of lovely things at Venice alone would be too long to enumerate, from the church of Santa Maria dei Miracoli to the Palazzo Vendramin; but there are beautiful monuments throughout Italy:—the inside of Alberti's Temple to Isotta at Rimini; the Cancellaria and the church of Santa Maria del Popolo at Rome, by the divine Bramante; the town hall at Brescia, the Casa dei Signori at Verona, and the beautiful palaces at Piacenza. Many of the sixteenth-century monuments, though heavier and duller than the earlier ones, in certain respects, excite our admiration: they were built after Vitruvius's work had been rediscovered and read, and his work was supposed to be a book of receipts for true architecture, to be illustrated by the Roman ruins that had been measured and published. In spite of its glaring faults the Palazzo Farnese is a majestic monument. The Pesaro Palace and the church of Santa Maria della Salute of the seventeenth century, though somewhat rococo, will keep Longhena's memory alive. In London we have the portico of St. Paul's, Covent Garden, by Inigo Jones; St. Paul's Cathedral and the steeples of Wren, now, alas! fast disappearing; Somerset House by Chambers, Newgate by Dance, University College and the National Gallery by Wilkins; though the last two were after Grecian revival.

For the charming grafts of revived classic on Gothic structures we must go to France, to Flanders, to Spain, to Portugal, and to Southern Germany. Who has failed to be grateful for Blois? That side of the palace that faces St. Vincent's Square is a masterpiece. There are, too, beautiful monuments of the early French Renaissance, including Chambord, scattered all over France; and we have Woolaton Hall in England.

I must point out to you that all the lessons that Architecture has to teach have by no means been exhausted. It is, perhaps, more than any other fine art the expression of the tendencies of the age in which its monuments were built, and this has not as yet attracted the attention of philosophers, though I think it will receive their attention in the future. If Cuvier could construct the effigies of extinct animals from one of their bones or talons, surely, in the future, philosophers will be able to learn the skill, the tastes, and the tendencies of an epoch from its architectural monuments.

When the architecture is genuine, more of the character and taste of the people and the tendencies of the age can be learned from it than from paraphrases of deceased architecture; yet even these show the acquirements of the architects and sculptors, the skill of the workmen, and some of the tendencies of the time. To wantonly destroy these built records is worse than to burn unpublished written ones, as the monuments contain much more history than most written records, and in destroying them you destroy an important lesson that is read to all, the embellishments of a city and a perennial honour to the country. "The accursed greed of gold" is destroying all the virtues of our people, as it did those of the Romans, and makes it hold nothing as sacred where gold is to be got by its destruction. The beautiful Hanover Chapel in Regent Street, designed by C. R. Cockerell, the most refined and accomplished of modern English architects, is now being pulled down to make way for shops, which pay heavier rates and taxes. The magnificent church of St. Mary Woolnoth, the masterpiece of Nicholas Hawksmoor, and a proof of the former piety of London, is threatened with destruction for a railway station. If this ignorance of the value of architectural monuments is not dispelled, and the greed of gold continues, those who live long may witness the conversion of St. Paul's Cathedral and Westminster Abbey into the stations of railway-junctions.

A genuine architectural style is evolved in this way: from the shapes and sizes buildings take to suit the wants for which they are built; from the exigencies of the materials used; from the shape of the roofs, to protect the inside from rain, snow, or heat; from the size and grouping of the windows, according to the needs of the chambers and the intensity or dimness of the light; from the uses of the doors; from the external provision for shade or shelter; from the original type from which the building was taken; from the constructive skill of the architect; from the æsthetic sensibility of the nation, and the particular direction it takes; from the ability of the architect to evoke the emotions proper to the building; and from the amount of excellence arrived at by the sculptors and painters: for it is obvious that if these arts coexist in one building, each art must be of equal excellence to make a consistent and effective whole.

Architectural styles are not the creation of a day, nor of a man; they are the alterations of the existing forms and arrangements to meet the new uses and the new tastes of the day. When the new generation is superior to the last, then architecture improves;

when it is inferior, architecture degrades. The general taste of former people mostly persisted in the same line for centuries; we see this in Greek architecture, that rapidly arrived at perfection after the successful overthrow of the Persians, and gradually declined till Athens fell under the sway of the barbarous Macedonians.

Architecture is a progressive art; but its progress is not always continuous, as nations unfortunately do not always improve; nor is their love constant to the same fine art. As long as architecture is alive, some change is of its very essence, as each generation has not exactly the same wants and tastes as the one immediately preceding it. Hence we see the foolishness of substituting antiquarianism for architecture, fixedness being substituted for natural motion, while a small knot of antiquaries settle what deceased architecture is to be chosen as the model. Once it was Roman work, then Greek, and since it has been Gothic—as if the wants, the knowledge, the skill, and the taste of the nineteenth century exactly resembled those of the Christian era, of 450 B.C., or of the thirteenth century. Deceased architecture is the architect's lesson-book, as history is the statesman's, and poetry the poet's.

Pleasant as it is to dwell on the glories and delights of deceased architecture, one cannot confine oneself to it when speaking in an Institution like this, formed for the furtherance of the art. It is doubtful if architecture has ever before been in its present condition, for there has mostly been a tradition or a belief, and never has a knowledge of many deceased styles been so complete as now. With two deceased styles at least, Renaissance and Gothic, a large proportion of our architects are so familiar that they could build a paraphrase in either that might almost deceive a Gothic architect of any period, or an Italian of the late Renaissance. This familiarity must to some extent tinge, if not modify, modern English work, and there is, as well, some superficial acquaintance with every style of importance that the world has known. The Roman architects of the early Empire had probably some knowledge of the architecture of Etruria, Greece, Asia Minor, Syria, and Egypt; at any rate, in Hadrian's day an Egyptian temple to Isis was built in the grounds of his villa at Tivoli. The Saracen architects must have seen the various styles extant in their day from Spain to India, and from the Gulf of Scanderoon to Cape Blanco, as well as the styles of Sicily, and had some knowledge of one or more of them. At the end of the eleventh century the Romanesque architects when they went to the Crusades must have seen most of the architecture of Europe, of Asia Minor, and of Syria.

Will a new style be developed by our successors as strikingly different from past styles as Saracenic is from Byzantine, or as Gothic from Romanesque? We cannot help noticing that there are at present not a few instances of the wildest originality, which have disregarded every architectural canon and every dictate of commonsense, owing to a want of proper direction and training being given to the architects. But this complete architectural liberty, although it has drawbacks, has certainly given us some very charming work; and I think few would desire to go back to those dingy streets of brick, where each house was destitute of proportion, of mouldings, of features, or of any character, emotional or otherwise; but was a plain brick box with holes in it. We may say there are now explorers in every direction, but the real road has not yet been found.

Some architects regret that architecture is not a pure fine art; why, I cannot tell, for its aim is surely the highest of any of the fine arts—that of creating a perfect organism like one of nature's, where every want is met, and where the building tells us for what particular use it was made, and where the sculptor, the painter, and the ornamentalist have combined with the architect to make the building tell its purpose most completely, and evoke the emotions proper to its use.

This Institute was founded, as its first Charter declares, "for the general advancement of civil architecture, and for promoting and facilitating the acquirement of the knowledge of the various arts and sciences connected therewith: it being an art esteemed and encouraged in all enlightened nations as tending greatly to promote the domestic convenience of citizens, and the public improvement and embellishment of towns and cities." Therefore, whatever other aims the Institute may have, the thing that is absolutely essential to its existence is the advancement of civil architecture. Architecture comprises three main branches, convenient and æsthetic planning, sound and daring construction, and the investing of the whole structure with such forms as excite the proper emotions. The powers of mind necessary to fulfil these requirements with any approach to perfection are seldom found to exist in the same person; hence the extreme rarity of great architects.

Our Library was begun when the Institute was first founded, and is now, I believe, the finest architectural library in Europe. At the meetings there were Papers read and discussions on them, and among these Papers is the famous one by Professor Willis on Gothic stone-cutting for vaults.* Prizes were offered for design, for measuring ancient buildings, for construction, for writing a clear description in a good English style of some building, architectural feature, or theory: as Swift says, "Proper words in proper places make the true definition of a style." All these advantages are continued to this day; and we have a fortnightly Journal as well. I must remind you that though there is an immense body of purely architectural literature, very little use is made of it, under the pretence that all an architect can do is to build. It must, however, be borne in mind that this literature often points out methods and refinements that have been forgotten—wrong views, wrong aims, and wrong practices then indulged in; while the man who builds as well as writes gives much time and labour to this writing, loses much work and much reputation, as he is generally pointed out by his fellows as a mere theorist. The benefit an architectural writer confers on architects, besides those that have been enumerated, may be immense, for he often rescues their names from oblivion. What would we not give now for treatises by the Greek, the Roman, the Gothic, and the Saracen architects? Many buildings that remain, and have been the admiration of mankind, have no architect's name connected with them. I may instance among many the Pantheon and Seville Cathedral. How many of the Greek artists, both architects and sculptors, would be unknown were it not for Vitruvius! Should we ever have discovered the optical refinements of Greek architecture if he had not described it? Again, how many names of the Italian artists of the Renaissance would be lost but for Vasari!

Geniuses spring up in free and virtuous nations, so let us hope that England may have many, and that architects may be among the number; and that no industry and no striving may be wanting in them to develop to the utmost that greatest of all gifts that Heaven can bestow.

I hope that our glorious art may in the future have still greater triumphs than it has had in the past; for, looking at our wider knowledge, our wonderful appliances, our new materials, our acquaintance with the powers of nature, the greatness of our empire and its position in the world, it may well be expected, if we and our successors retain our self-denying and single-eyed devotion to our art. I hope that in the future the nation will take a deeper interest in architecture, feel prouder of its triumphs, and understand what it does for the country; that the architects, casting aside archæology except for study, may evolve a phase of art which fulfils the tastes and aspirations of the nation as completely as the Greek temples or the cathedrals of the Middle Ages once did. And surely this is taking a very modest view, for may not we who "rift the hills and roll the waters, flash the lightnings, weigh the sun," hope to erect monuments that will cast into shade the Greek temples by their exquisiteness and sublimity, and the glories of the Gothic cathedrals by their size, daring, and solemnity?

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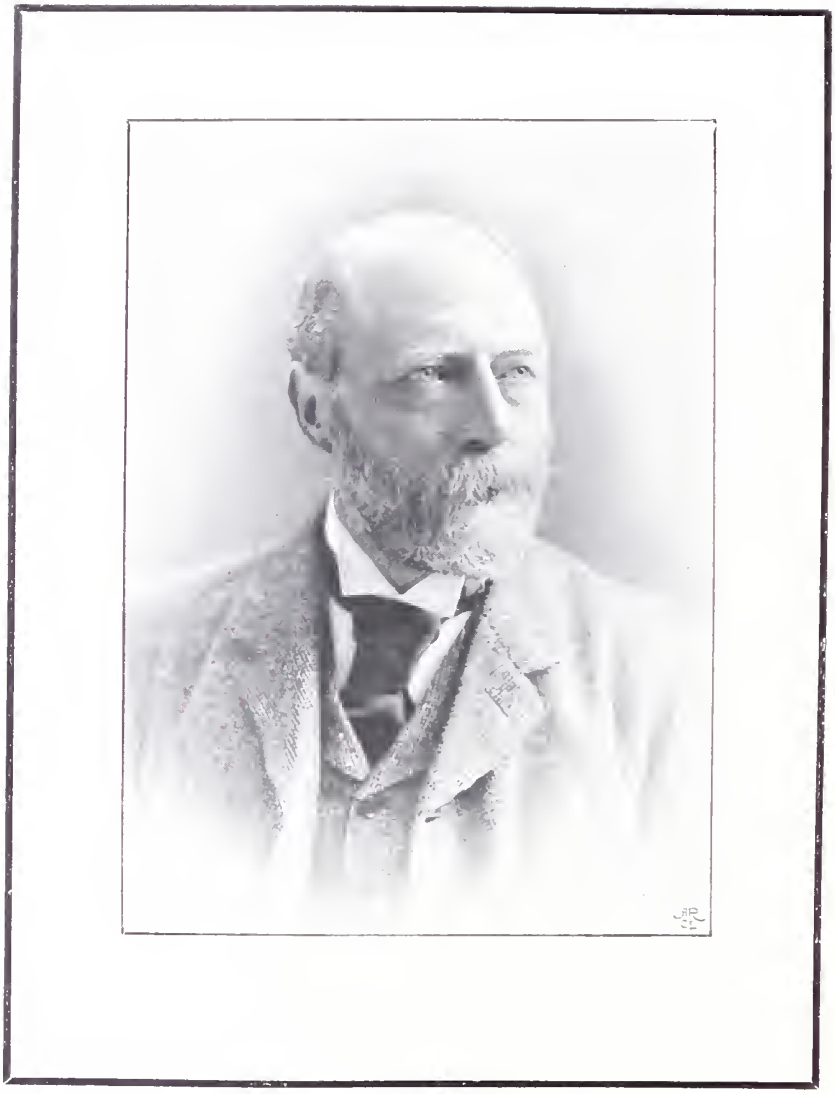
* Transactions 1842, p. 1: *On the Construction of the Vaults of the Middle Ages.*

VOTE OF THANKS TO THE PRESIDENT.

Mr. F. C. PENROSE, F.R.S.—Ladies and Gentlemen, as the predecessor of our worthy President in the Chair, I should like to be permitted the privilege of proposing a Vote of Thanks to him for his admirable discourse. First, for the thoughtful and kindly mention of our late valued Secretary; and secondly, for having laid before us so splendid an ideal of the duty and privilege of the architect, an ideal I hope we shall all strive to attain. As there are others present better able to speak, I will not detain the Meeting further than to propose a very hearty Vote of Thanks to the President.

Dr. A. S. MURRAY [*H.A.*], F.S.A.—Ladies and Gentlemen, before seconding the Vote of Thanks to the President for the Address to which we have just listened with so much attention and delight, I would like to refer for a moment to one or two of the observations which most impressed me, as no doubt they have impressed you also. After defining the position of architecture among the fine arts, in most happily chosen sentences, the Address proceeded to characterise the various great epochs of the art with that wide knowledge and keen critical faculty for which the President is distinguished, if I may say so in his presence. Truly it is pleasant, as he has said, to dwell on the glories and delights of the Greek, Roman, Byzantine, Saracenic, and Gothic architecture. But I would add that the pleasure is all the greater when we have him as a guide. Then the Address turned to the burning question of the day, What is to be the outcome of all the learning and knowledge of ancient styles which is so marked a feature of our age? We were told that "never before has a knowledge of so many deceased styles been so complete"; and, again, that there is to be found at present among architects "some superficial acquaintance with every style of importance that the world has known." That knowledge of this kind may lead to imitation has been obvious enough in some of the work of the last and the present generation. That, however, is no new phenomenon in art. The same thing occurred in the history of Greek sculpture. But the point which the President made was this, that there is nothing in knowledge itself, however extensive it may be, which should interfere with the creation of a new style to-day. As he says, the Roman, Saracenic, and Romanesque architects had abundance of knowledge of the great things that had been done well before their time. We might even go farther back, because one of the earliest and greatest of Greek architects is known to have travelled in Egypt, and is very reasonably presumed to have known the architecture of Assyria and Persia. No doubt he had been profoundly influenced by his studies in these countries; but he no more thought of imitating the Egyptians and Persians than of introducing their language into Greece. At our schools and universities young men are trained to compose in Greek and Latin, often attaining great excellence. But when they go into the serious business of life all that sort of thing remains behind as so much training of the intellect and taste. So, I suppose, it should be with architectural training. The imitation of the great things of the past should be laid aside when the business of life commences, but the great things themselves should never be forgotten. Of course, circumstances have arisen, and may often arise, when a rule like this has to be broken through. Such, for instance, was the case at the time of the Classical revival, when the publications of Stuart and, later on, the researches of Cockerell had poured a flood of entirely new light on the art and architecture of Greece. Everywhere the demand for buildings in the Greek style was urgent, and when men of the genius of Cockerell applied themselves to the task there was surely nothing to complain of, but rather everything to praise. It was a case in which architecture had to become, as the President has said, "an exponent of the tendencies of the time." As I have mentioned the greatly honoured name of Cockerell, you may allow me to join in the President's denunciation of those who are at this moment razing to the ground one of his most familiar works, the Hanover Chapel in Regent Street, to make way for shops which pay heavier rates and taxes. Some years ago, I remember, our friend in the Chair made a vigorous protest against this act of barbarism. For the time that appeared to have succeeded. Now the mischief is done. If there is no fault to be found with the present methods of training, and equally no inspiration to be expected from them, where are we to look for the rise of a new style? The President has answered confidently that we must look to the exigencies of the time, the purpose which a building has to serve in all its many aspects, the constructive style of the architect, and his ability to evoke the emotions proper to the building, together with the æsthetic sensibility of the nation. Every one will subscribe to that statement. You will remember also the earnest expression with which he concluded—of his hope "that architects casting aside archæology, except for study, may evolve a phase of art which fulfils the tastes and aspirations of the nation as completely as the Greek temples or the cathedrals of the Middle Ages once did." You will have observed that the President has spoken repeatedly of "deceased architecture"; and if I am obliged to conclude with some objection to the Address, I would base that objection on the word "deceased." No doubt everything which has once had vitality and has it no more may be described by this gloomy word. But perhaps this is a case in which some euphemism would be better. I have much pleasure in seconding a Vote of Thanks to the President for his Address.

Colonel LENOX PRENDERGAST [*H.A.*].—Ladies and Gentlemen, I venture to ask permission to associate myself in the Vote of Thanks that you have just been requested to tender to the President for the Address which we have heard to-night. It seems to me that in all professions there comes a moment when men are so absorbed in the practical everyday work of their profession that it is positively refreshing to allow oneself, as it were, to step aside from the thoroughfare to think. I take it that our President, in the wide field he has put before us to-night, has that object in view, and I for one would ask you to consider for a moment how far the study of the works of great masters is or is not a necessity. I suppose that would be answered instantly in the affirmative, but then the question comes, Have we with us those who can teach us to appreciate their scientific methods? We have amongst us one who fifty years ago began the scientific study of this subject, and I rejoice to find that our President alluded in warm and cordial words to the great work of his predecessor, Mr. Penrose. Now I should like just to say a word by way of encouragement to our younger members. There was once, now fifty years ago, a distinguished Oxford man of the highest education—the late Dean Church—who went out to Athens, and in the year 1847 he met Mr. Penrose. He writes from the Turkish Tower, in the north-east angle of the Acropolis at Athens, and he says: "It is remarkable what extreme attention these great architects paid to the effect of their buildings. There is a young architect here—a Mr. Penrose—who is taking all the measurements with the utmost accuracy, and the results as to the contrivances employed to give the fullest optical effect to the building are very curious. For instance, there is not a single column which is perpendicular—they all lean inwards to a definite degree." Then he says: "There is scarcely a straight line in the building; all, except some few straight lines, are mathematical curves, sections of the cone which agree with the calculated curves exactly, and are such as just would give the fullest effect to the lights and shadows." I have quoted those words, as I said, for the encouragement of our younger members. We live in times when there is a positive thirst for architectural detail, if not for architecture itself, and it is essential that those who have the tradition of these great masters should impart to us in later times the results of their researches; and I venture to hope that the Science Committee, if the Committee to which I have the honour to belong—the Literature Committee—have not already done so, will put pressure upon Mr. Penrose to give us one, two, or even three addresses on those fundamental principles of the art, which will be not only an advantage to ourselves, but a benefit to the public at large. The President has alluded to the contents of the splendid Library which we possess. I have had, from being on your Literature Committee, opportunities of knowing the treasures that you do possess; but, Sir, book learning is not everything; it is essential that great works should be studied on the spot. And if we do not do it, others will do it. I know that in one country, at any rate, enormous efforts are being made in this direction; I know what is going on in Germany, and I will tell you how I came to know it. I happened to be seated, not many months ago, in a palace in Venice that was alluded to by our President to-night—the Vendramin Palace—which is, I believe, the finest in the whole place—at least I think so—and, what is more, it is lived in as it always has been. I was seated with the proprietor, when he, knowing my architectural proclivities, said, "I think it would interest you to know that last year I received a letter from the Government at Berlin asking me to allow a large number of young architects to come and study the palace. I assumed that they, like everybody else, would go the round through the rooms, make their remarks, and come away. But in they came, and as soon as I had given them permission to go all over it, they went up to the top of the palace, and, with the aid of ropes they had brought with them, got out on the roof and let themselves down and measured



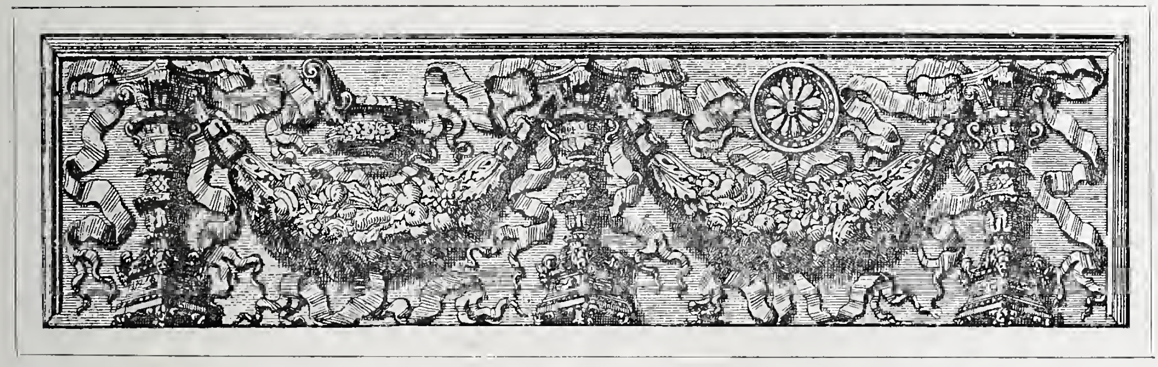
THE LATE WILLIAM H. WHITE.

SECRETARY 1878–1896.

Yours truly
William H. White

the contour of the mouldings and the projections of the cornices everywhere. When that was done they got back, and in the great hall of the palace the leader of the party, an experienced German professor, then and there, while the thing was in their minds, and in the building itself, went into the full detail with the most elaborate instruction on the subject." It seems to me that it is of some importance that we should know that this sort of thing is being done elsewhere. We are about to erect on a splendid site in Whitehall an office for the Ministry of War. In that office we are in the habit of deriving much knowledge and experience from the German Empire; let us take care that the casket should not be "made in Germany." I beg very cordially to support the Vote of Thanks.

The President briefly replied in acknowledgment of the compliment.



WILLIAM H. WHITE, *Fellow,*

EIGHTEEN YEARS SECRETARY OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

Born January 1838; died October 1896.

THE unobtrusive lives of most men who are devoted to intellectual pursuits attract little attention from the world generally. In these days of unseemly advertisement, when a flourish of trumpets too often heralds the personality rather than the work, the quiet labours of a thoughtful man are apt to be passed by unnoticed. Indeed, it may be said that men are to be found in all communities, with definite aims and actuated by high motives, for whom not one thought is spared to the value of their work or the influence they may exercise in the progress of mankind. The great centres of intellectual training, the learned societies, and the universities in all parts of the civilised world, are the home of the type of humanity which finds its chief pleasures in the higher ranges of mental occupation. Of such was our late lamented colleague, William H. White, for eighteen years Secretary of this Institute, who died on the 20th October, after an illness extending over several months. He was followed to his grave in Nunhead Cemetery, two days afterwards, by those who knew his worth and his labours, and with whom he had so long worked and striven in intimate association.

In the brief obituary notice in *The Times* of the 22nd October it was said that diligence and unbounded activity marked his career. To these commendable qualities should be added a long course of honourable conduct, persistence in the faithful discharge of his duties, and a devotion to the Institute that knew no limits. White commenced professional life with but little extraneous help. On the completion of his articles in London with George Morgan, he crossed the Channel, and, after a short term in the office of a French architect, established himself in Paris with a view to permanent residence. Fortune soon began to look kindly on the young Englishman located on foreign soil, and influential clients came to his door. For the Baron Fernand de Schickler he reconstructed a large portion of his Château de Bizy, once a favourite residence of Louis Philippe; and the Baron Arthur de Schickler entrusted him with extensive additions to the Château de Martinvast, near Cherbourg. He was also engaged upon some interesting work at an old château near Bourges, belonging to Prince Auguste d'Arenberg. These and a number of minor works seemed to secure for him a promising future. But the Franco-German War broke out, and shattered his hopes at a blow. His wealthy clients, who were mostly of German extraction, abandoned all building operations and quitted France, leaving poor White to pack up his effects and make his way back to England. And here must be recorded a touching incident in his career. Taking a last farewell look round the room which had served as his studio during a few happy years, instinct inspired him with the idea of laying all his drawings and materials on one table and covering them over with the Union Jack. In the following year, when quiet once more reigned within the walls of Paris, White visited his old room, and, to his surprise, found everything untouched and the covering flag undisturbed.

Nothing daunted by the necessity of starting once more in professional life, White sailed for India, and, taking advantage of his father's long connection there as a member of the Bengal Medical Service, entered the Public Works Department of the Indian Government. Here, again, his marked ability and diligence soon brought him into note, and important buildings, such as the Court of Small Causes at Calcutta (illustrated in *The Builder*, 23rd March 1878), the Monument to Chief Justice Norman, and the Presidency College were committed to his charge. After travelling in India and on the Continent, White returned to London and took up journalistic work, for which he had special qualifications. His contributions to *The Builder* at that period, in the form of reviews or original articles, are numerous enough, and are all stamped with an amount of research that would do credit to any writer in the highest ranks of literature. About this time he was appointed the Examiner in Architecture at the Royal Indian Engineering College, Cooper's Hill, a post he occupied for about two years. And now came the turning-point in his career. The Secretaryship of this Royal Institute became vacant in 1878 through the retirement of Charles Eastlake, the present Keeper and Secretary of the National Gallery. White's eminent qualifications at once secured him the post. It is difficult to tabulate his official work in Conduit Street, or to enumerate his able services during a long term of eighteen years—an era in the progress of the Institute marked by increased influence at home and abroad, and a necessarily more extended system of administration. A glance at any of the official publications at the period when White entered upon his duties, put in comparison with any recent number of the JOURNAL, or a volume of the TRANSACTIONS issued till within the last three years, will suffice to show the amount of increased responsibility imposed upon the Secretary as Editor of all the Institute publications.

There were two influences in White's career which, more or less, seemed to govern his course of action. Perhaps his sojourn in Paris was the more potent. Adapting himself to French methods, moving freely amongst architects of repute, and regarding with admiration their systems of artistic and professional education, White brought with him to England ideas which he could never shake off. His views on many points were frequently foreign to English notions and methods, but the knowledge that he had acquired proved of infinite service in the transaction of his official duties. Few of his colleagues in this country are aware of the high esteem in which White was held by architects of all European countries, as well as the States of America. His constant correspondence with French architects especially was to him one of his most pleasurable occupations. A facile pen, and a perfect acquaintance with the French tongue and all technical expressions, made him a desired communicant in international matters relating to architecture and architectural practice. Scarcely nine months ago White, not in the best of health (for the seeds of his fatal disease were already sown), went to Paris as the accredited representative of the Institute to take an honoured part in a banquet to M. Charles Garnier on his promotion to the grade of Grand-Officier de la Légion d'Honneur. The more than cordial reception given to White on that interesting occasion, when 150 architects and others belonging to the world of Art attended, was due as much to his endeared personality as to his representation of a Body always held in high esteem by our brethren throughout France.

The other influence to which reference has been made was the character of the literature he favoured about the time of his settling permanently in London. White was always a reader. He was so constituted intellectually that he could not but delight himself with the works of his favourite authors. Had White been unsuccessful in obtaining the Secretaryship, he would, in all probability, have drifted permanently into journalism. With this idea in view he took infinite pains to attain style in composition. Among the essayists and other writers of the period he selected for study, no author was more congenial to his taste than Swift, although Sterne and Smollett proved almost equally attractive. To the tinge of cynicism that permeates the pages of the gifted Dean may be ascribed that disposition to combativeness and satire that mars the general excellence of many of White's well-studied compositions. Anyhow, his love of literature and books, and his special interest in the growth and extended usefulness of the Institute Library, never failed him. Solely to his endeavours and persistent action the Library has been enriched in recent years by a number of valuable works presented by English and foreign authors and publishers. And, at the last moment, when he felt the end was approaching, a kindly thought prompted him to indite a letter to his brother, as sole executor, with a fond request that all his books and papers relating to architecture might be at the disposal of the Institute he loved so well. But now his work is over, and the long day has closed. The morrow, which in his last lingering hours he was anxiously awaiting—the morrow when he would take his accustomed seat in Conduit Street, conduct his correspondence, and then, in the evening hours, in the Club Library, or in the quietude of his own room, give play to the love of writing something for the advancement of the Institute, will come no more. His book of life has been finished too soon. But any one who cares to turn over its pages will find therein a long record of thoughtful, well-directed work, of unswerving attention to the call of duty, and a devotion to the Institute that has no parallel.

Alex. Graham.

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PRIOR to the delivery of the Address at the Opening Meeting of the Session, held on Monday, the 2nd November, the President, Professor Aitchison, A.R.A., in formally announcing the decease of the Secretary, addressed the following observations to the Meeting:—Brother Architects, Ladies, and Gentlemen, it is my mournful duty to inform you of the loss of our Secretary, Mr. William H. White, who expired on the 20th of last month. I may say that his loss to the Institute is irreparable—not, I hope, irreparable in the larger sense, but at the present moment; for there is nobody available to our hand who possesses his knowledge, capacity, and energy, and such single-eyed devotedness to the Institute. I may say that his office was not only his occupation, but was to him in the place of a wife, of a family, and of a hobby. His devotedness to the Institute was such that I am afraid his untimely end (for he was only in his fifty-ninth year) was hastened by the neglect of the exercise necessary to health, but which his devotion to his work prevented him from taking. His qualifications for the office of Secretary were not only unusually great, but very uncommon. He was a man of great sagacity and judgment, possessed of excellent business habits, of a capacity for organisation but rarely found, and of great application; he had, too, a deep knowledge of architecture and of architectural books. His sagacity and judgment were conspicuously shown by his steering the Institute safely through the billows and quicksands that beset the new Charter and the alliances with the Provincial Societies. When one considers the variety of duties that the Secretaryship of the Institute involves—and not the least is the enormous correspondence it entails—it will be seen that that office alone is quite sufficient to exercise the capacity and energy of any ordinary man. But these duties performed, there was the work of the Journal to do, in itself enough to occupy the whole time and thought of one man. He was frequently in attendance at the printers' far into the night, correcting proofs and seeing that everything was perfect. All of you who have been members of the Council or of Committees know with what punctuality everything was prepared for them, and how unfailingly the Journal was delivered—no small task, considering that there are nearly 1,600 members in various parts of the world. I may say that Mr. White, besides these qualifications, brought a great many more that were most valuable to the Institute. He had for many years been a successful architect in France, and afterwards in India; he had also been a constant correspondent to the professional papers; and from having been an architect in France, he was not only a most admirable French scholar, but had an accurate knowledge of the methods followed there in the teaching of young architects, and for successfully carrying out the public monuments. He had an admiration for the way in which French architecture was carried out, and he shared with us and with the rest of the world the admiration for that nation's genius in architecture. These accomplishments made him beloved in France, and gave him the power of binding more closely together our association with foreign architects; for you must remember that nearly every nation speaks French as well as its own language. His devotion to the Institute was so great that we can hardly look for it again from an ordinary Secretary. His grand aim, however, was the perfection of English architecture, and he looked on the Institute as one of the principal means for improving English architecture and for raising the status of the profession. He once said to me that, if it were not for his firm belief in the efficacy of our examinations, our prizes, and our Papers for improving the art and the profession, he would throw up his onerous duties. I need not say what a loss to me alone such a Secretary must be; but he was also a personal friend, and no one can lament him more than I. His admiration of the French methods was so keen that he never ceased in his spare time (and that spare time, I may say, he made himself) to urge on the English nation the desirability of adopting the advantages of the French system, and, I hope, not without effect. I saw him not many days before his death, and he was particularly anxious to recommend his staff to the consideration of the Institute for the admirable way in which, during his illness, it had seconded his efforts. I hope I have shown reason for the respect and honour with which he was treated during his life, and for our grief at his loss. I must now ask you to signify your desire that a Vote of Condolence be sent to his surviving relatives, expressing the great loss that the Institute has sustained, and the heartfelt sympathy it has with them. Almost immediately after his death I had the following eloquent and affectionate letters from two of our Corresponding Members in Paris who knew and admired our late Secretary. One is from M. Auguste Choisy, one of the Chief Engineers of Roads and Bridges in Paris, who, as you know, is the author of those works which have so greatly instructed and delighted us—*L'Art de bâtir chez les Romains* and *L'Art de bâtir chez les Byzantins.* He writes:—

"Je reçois à l'instant une nouvelle qui est bien triste pour le Royal Institute of British Architects et qui me touche personnellement d'une façon profonde, la perte de ce pauvre M. White. Quel aimable et dévoué collègue, quelle variété de connaissances, et quelle puissance de travail! C'était le secrétaire idéal: artiste, savant, homme d'action. Et puis il unissait si bien aux qualités anglaises le tour d'esprit français! Cette association précieuse faisait de lui un lien entre les collègues des deux nations, et j'aimais à me représenter l'Institut royal avec vous comme président et ce pauvre White comme secrétaire."

The other letter is from M. Charles Lucas, one of our most valued Correspondents, who writes:—

"J'ai appris, dès mercredi 21, par deux lettres, l'une de M. le colonel Geo. A. White, et l'autre de notre honoré confrère M. Arthur Cates, la très grande perte que vient de faire notre Institut royal des Architectes britanniques en la personne de notre si distingué confrère, M. William H. White, secrétaire de cet Institut depuis près de vingt années. M'étant par suite de circonstances favorables, trouvé plus peut-être qu'aucun autre de mes confrères français, en relations de correspondance et même de visites avec monsieur White, je pense qu'il doit m'être permis de vous exprimer, ainsi qu'à l'Institut que vous présidez, toute la douloureuse émotion que me cause cette mort d'un confrère et ami qui a rendu de si grands services à notre profession en s'efforçant sans relâche d'accroître et de resserrer les liens qui unissent les architectes d'Angleterre à ceux des autres pays et particulièrement à ceux de France. Je suis certain que le vide considérable que cause cette mort parmi les architectes anglais sera également ressenti de ce côté-ci de la Manche et sachant, monsieur le Président et cher maître, les si excellentes relations qui vous unissaient à notre regretté confrère, je crois pouvoir ajouter à mes sentiments professionnels l'expression de ma respectueuse sympathie pour vous à l'occasion de ce deuil que nous ressentons en commun."

I have also received a letter from Baron H. von Geymüller, our distinguished Corresponding Member in Baden-Baden. He writes:—

> "I have just been informed by Colonel G. A. White of the death of his brother, William H. White, Secretary of the Royal Institute of British Architects. Having had for about eighteen years the opportunity of appreciating the kind friendship with which he honoured me, and having thus been able to understand at least some of the distinguished qualities of mind of our brother architect, as well as of his character as artist and writer, I feel sure his departure will be not only a cause of deep regret, but a true loss for the Royal Institute of British Architects in which he took so great an interest. I beg therefore to be permitted, as one of your Hon. Corresponding Members, who were always sure to be so kindly welcomed in London by the Secretary of the Institute whenever they crossed the Channel, to express to you, Mr. President, to the members of the Institute, and to the friends of Mr. White, the deepest and most heartfelt regrets I feel at his loss."

M. Boileau, Secretary of the Société Centrale des Architectes Français, Paris, has written as follows:—

> "C'est avec une véritable affliction que la Société centrale des Architectes français apprendra le décès du très-regretté monsieur William H. White, l'un de ses membres correspondants les plus aimés et les plus estimés. Nous vous prions d'être l'interprête de nos sincères sentiments de condoléances auprès de monsieur le Président de l'Institut royal des Architectes britanniques et de la famille de monsieur White."

At the conclusion of the President's remarks the Hon. Secretary read the following excerpt from the Minutes of a Meeting of the Council of the Glasgow Institute, which had been forwarded by the Secretary of that Body:—

> "It was proposed by Mr. Campbell Douglas, put to the Meeting by the President, and adopted unanimously, that a message of sympathy should be sent to the Council of the Royal Institute of British Architects with reference to the death of the late Secretary, Mr. William H. White, whose enthusiasm in all matters concerning architecture, and especially in the discharge of his duties at Conduit Street, for so many years made him esteemed, not only there, but by the Allied Societies."

The following letter, addressed to the President and Council by the Dundee Institute, was also read:—

> "The Council of the Dundee Institute of Architecture desires to express its deep and heartfelt sympathy with you in the decease of your worthy and esteemed Secretary, Mr. White, and to add its meed of esteem for him and regret over his departure. More particularly at the present time, when serious changes seem impending, the loss of his wise knowledge and ripe experience can scarce be over-estimated."

On the motion of the Hon. Secretary, the following resolution was put to the Meeting, and unanimously agreed to:—

> That the Royal Institute of British Architects desires to record its deep sense of appreciation of the invaluable services rendered to the Institute by the late William H White [*F.*] during his eighteen years' tenure of the post of Secretary, and as Editor of the Institute TRANSACTIONS and JOURNAL; and to express its profound sorrow for the irreparable loss the Institute has sustained by his untimely demise. The Institute also desires to offer to Colonel G. A. White, late Commanding 1st South Lancashire Regiment, an expression of the most sincere sympathy and condolence on the death of his brother.

9, Conduit Street, London, W., *5th November* 1896.

CHRONICLE.

Papers for the Session 1896-97.

1896
Nov. 16.—The Great Mosque of the Omeiyades, Damascus. By R. Phenè Spiers [*F.*], F.S.A.
Dec. 14.—The Second Series of Brickwork Tests conducted by the Science Standing Committee. By Professor Unwin [*H.A.*], F.R.S., and other members of the Committee.
1897
Feb. 1.—The Sculptors' Architecture of the Renaissance. By Alfred Gilbert [*H.A.*], R.A.
Feb. 15.—The Garden in relation to Architecture. By Henry E. Milner, F.L.S., Assoc.M.Inst.C.E.
Mar. 15.—Heraldry in Architecture.
Mar. 29.—The Westminster Improvements Scheme. By H. Heathcote Statham [*F.*].
Apr. 12.—Papers under the management of the Art Standing Committee.
May 17.—The Parthenon. By F. C. Penrose, F.R.S., *ex-President*.

The First Meeting of the Session.

There was an exceptionally large gathering at the Opening Meeting on Monday, the 2nd inst. Three of the four surviving Past-Presidents attended, viz. Mr. Alfred Waterhouse, R.A., LL.D., Mr. Macvicar Anderson, and Mr. Penrose, F.R.S. Mr. Charles Barry, the senior Past-President, wrote regretting his inability to be present. The visitors included several ladies. The Hon. Associate class was represented by Mr. W. B. Richmond, R.A., Mr. Hugh Leonard, Dr. Murray, of the British Museum; and Colonel Lenox Prendergast. The observations of the President in reference to the loss of the late Secretary, and the letters of condolence which had been received from various quarters, were listened to with sympathetic interest, and the resolution which followed passed in respectful silence. The Presidential Address, which occupied about three-quarters of an hour in delivery, and the speeches on the Vote of Thanks were received with manifest approval by the Meeting. On the walls and screens were hung a selection of photographs, prints, drawings, &c., from among the Institute collection, illustrating many notable architectural monuments.

The Statutory Examinations.

At the General Meeting of Monday the Hon. Secretary announced that a Statutory Examination had been held on the 29th and 30th ult., under the provisions of Section 140 of the London Building Act 1894, and that two candidates had attended and passed, viz. Mr. Osborn Cluse Hills [*A.*], of 147, Bow Road East; and Mr. George Tolley, of Grote House, Blackheath. Both candidates had therefore been granted by the Council Certificates of Competency to act as District Surveyors in London. It was also announced that an Examination for the office of Building Surveyor under Local Acts of Parliament had been held on the same dates, and that the one candidate who attended—viz. Mr. John Hoy Dunn, of 17, Oxford Road, Stroud Green—had passed, and been granted by the Council a Certificate of Competency to act as Building Surveyor under Local Authorities.

Experimental Research: Brickwork Tests.

Mr. William C. Street, Hon. Secretary of the Science Standing Committee, writes that the Meeting of the 14th December, to be held under the management of his Committee, will be devoted to an account of the further tests of brickwork piers made in June last, with illustrations showing the various modes of failure and tabulated statements of results. The Committee are promised a paper or remarks the same evening by Professor Unwin, F.R.S., on the relations between form and strength.

Meantime, the Sub-Committee, consisting of Professor Unwin and Messrs. Wm. C. Street, Max. Clarke, H. W. Burrows, Matt. Garbutt, and Bernard Dicksee, are engaged in preparing further examples of brickwork in the shape of short lengths of walls for experimentation in February next. The walls will be built of the same materials as the previous examples, viz. London stocks, gaults, Leicester reds, and Staffordshire blues. In addition to these, four pieces of wall will be built of Fletton bricks. These bricks are now being largely used in the London district, and it will be interesting to find how they compare with the several descriptions of bricks already experimented upon. In the first experiments the piers generally commenced to fail at the line of closers; in these pieces of wall, as in ordinary lengths of wall, there will not be any closers, and an increase of strength per square foot of sectional area, as compared with 18-inch piers, is expected.

In carrying out these experiments, Mr. Street continues, the Committee have devoted much time and money, but have received very little sympathy from the elder members of the Institute, who appear generally to be of opinion that the present sum of human knowledge on these and kindred subjects is quite enough for the present and succeeding generations. Nevertheless, the Committee have persevered, and have been assured that the experiments, which are upon a scale never before attempted, are being watched with great interest both in England and America. It remains to say that the funds at the disposal of the Committee are inadequate, and during the recess Mr. Gordon Smith, the Chairman of the Science Committee, addressed a circular letter to several of his professional brethren with a view to eliciting further subscriptions to the fund. The following additional subscriptions have been received, and it is hoped that the members of the Institute generally will assist:—

Mr. G. R. Crickmay [*F.*]	£1	1	0
Mr. Bernard Dicksee [*A.*]	2	2	0
Messrs. Flockton [*F.*], Gibbs [*F.*], and Flockton [*A.*]	3	3	0
Mr. W. Goodman	2	2	0
Mr. H. Jarvis, Jun. [*F.*]	2	2	0
Mr. Edmund Kirby [*F.*]	1	1	0
Mr. H. D. Searles-Wood [*F.*]	2	2	0
Mr. E. Seward [*F.*]	0	10	6
The Sheffield Society of Architects and Surveyors	2	2	0
Mr. Lewis Solomon [*F.*]	2	2	0
Mr. G. H. Stanger [*F.*]	1	1	0

The late William H. White, Secretary [p. 11].

The remains of the late Secretary were followed to their last resting-place in Nunhead Cemetery by his only brother and nearest relative, Colonel White, late Commanding 1st South Lancashire Regiment; Professor Aitchison, A.R.A., President; Mr. Alfred Waterhouse, R.A., LL.D., and Mr. J. Macvicar Anderson, Past Presidents; Mr. Alex. Graham, F.S.A., and Mr. Aston Webb, F.S.A., *Vice-Presidents*; Mr. Wm. Emerson, Hon. Secretary; Messrs. Thomas Blashill, Edwin T. Hall, John Slater, R. Phené Spiers, Paul Waterhouse, and Beresford Pite, members of the Council; several members and officials of the Institute, and other friends. White's connection with the Institute had existed since 1864, when he was admitted Associate; he was elected Fellow in 1868. Reference must be made to the kindly, sympathetic tribute paid to his memory in *The Times* and in the professional journals—notably *The Builder* of the 24th ult., *The British Architect* of the same date, and the *Builder's Journal* of the 27th ult. The French journals, *L'Architecture*, of the 24th ult., and *La Construction Moderne*, 31st ult., have also borne eloquent testimony to the worth and rare qualities of the deceased. The Memoir which appears on a preceding page will be supplemented at an early date by a general review of White's literary achievements. He had latterly been at some pains, in the enforced idleness of a sick-room, to collect from various sources a number of his earlier writings on a variety of subjects, with a view to their publication in one volume.

The Council Dinner Club.

The existence of this club, which has had a career of twenty years, is probably unknown to many of the younger members of the Institute. It was founded during the presidency of Mr. Charles Barry to give Members of Council an opportunity of dining together in the short interval between the close of a Council meeting and an evening gathering at the Institute. With the assistance of Mr. Octavius Hansard as honorary treasurer—a post he relinquished only at the commencement of last session—the club has usefully fulfilled the purpose of its foundation, and has brought men together in social intercourse who seldom meet except for the discussion of business matters. It consists of all members of the Council for the time being, past Presidents, past Vice-Presidents, and such other past members of Council as the club may think fit to elect. The meetings are held at Limmer's Hotel, and last from 6 or 6.30 p.m. till five minutes to eight, on all occasions during the session when there is an evening meeting. The club is entirely self-supporting, a small subscription and the payment of a dinner fee at the close of each gathering being just sufficient to enable the club to pay its way and to entertain from time to time a few guests whom the Council desire to honour. Twenty years have made many gaps in the ranks, and such names as Beresford Hope, George Edmund Street, Edward Barry, and other architects of distinction, which appear in the earlier lists, have given place to others equally familiar to the younger members. As a matter of congratulation it should be recorded that two original members, Mr. Charles Barry and Mr. Henry Currey, are still on the list—an example that might have been followed by others who for many years took an active part in the affairs of the Institute, and are happily still amongst us, enjoying health and well-earned success. It should be borne in mind that the Institute has no accommodation in Conduit Street for the purposes of a club; nor has it the means of discharging any of those social functions which play a not unimportant part in the progress of such Institutions. But it is hoped that this drawback may be overcome in the near future, and that not only foreign architects of distinction who are so frequently in England, but Honorary Members, as well as all those who take an active part either on Committees or by literary assistance in the conduct of the JOURNAL, may receive at the social gatherings of the Council Dinner Club a courteous recognition of loyal services and of personal interest in the advancement of architecture.

Additions to the Library.

Mr. Arthur Cates has recently supplemented his many donations to the Library by the gift of *Li*

Cinque Libri di Architettura di Gio. Battista Montano (Rome, 1684). In a letter which accompanies the donation, Mr. Cates calls attention to the facts that Montano was a Milanese architect and sculptor who died in 1621, aged eighty-seven years, and that the books in question were published after his death by G. B. Soria, the engraver, a pupil of Montano. Portraits of master and pupil appear respectively in the first and second volumes. Mr. Cates further invites attention to the second and third volumes, to the illustrations of which particular interest is attached owing to their professing to be restorations of ancient temples on the basis of remains measured by the author in the vicinity of Rome; the majority of these buildings, if not all, have now entirely disappeared. Mr. Cates refers to the picturesque and skilful planning of many of these. This donation once formed part of the library of William Beckford, the author of *Vathek*, and came from the Hamilton Palace Library.

Mr. Thomas Blashill has presented a copy of his recently published *Sutton-in-Holderness: the Manor, the Berewic, and the Village Community* [Hull: Wm. Andrews & Co.; London: A. Brown & Sons], in which he has chronicled the parochial history of the place from the time of the Domesday record to date. Mr. Blashill's interesting account is accompanied by numerous illustrations by Miss Eva Blashill and others.

Choir Stalls and their Carvings. Examples of Misericords from English Cathedrals and Churches, sketched by Miss Emma Phipson, has been received from the publisher [London: B. T. Batsford]. The volume contains 300 examples, with descriptive notes and an introduction.

Professor Ernesto Basile has presented a handsome monograph on *Il Teatro Massimo Vittorio Emanuele in Palermo* [Palermo: Alberto Reber]. The late Professor G. B. Filippo Basile [*Hon. Corr. M.*] was the architect of the building which this volume commemorates, and which is prefaced by an account of his career by Cavaliere Achille Albanese, the President of the Collegio degli Ingegneri e degli Architetti, Palermo.

The series of articles published anonymously in *The Building News* in the early part of this year, under the general title of "Notes on Domestic Drainage," have been collected by their author, Mr. T. E. Coleman, and published in book form under the title of *Sanitary House Drainage: its Principles and Practice* [London: E. & F. N. Spon]. Mr. Coleman has presented the Library with a copy of his work.

A Handbook of Art Smithing for the use of Practical Smiths, Designers of Ironwork, Technical and Art Schools, Architects, by Franz Sales Meyer, Professor in the School of Applied Art at Karlsruhe, and author of the well-known handbook on ornament, has been presented by the publisher [London: B. T. Batsford]. The English copy has been translated from the second and enlarged German edition, and contains an introduction by Mr. J. Starkie Gardner, and 214 illustrations.

The Agent-General for New South Wales has forwarded *New South Wales "The Mother Colony of the Australians,"* an extensively illustrated volume dealing with the physical geography and climate of the colony, its laws, its religious institutions, its literature and art, its industries, social conditions, education, &c., concluding with a chapter on Federation. The various subjects are treated by various hands, and the whole is edited by Frank Hutchinson [Sydney, N.S.W.: Charles Potter].

Mr. John Hebb [*F.*] has presented the third edition of *A Handbook of Bury St. Edmunds*, by Samuel Tymms [Bury St. Edmunds: F. Lankester, 1864].

Det Kongelige Akademi for de Skönne Kunster (The Royal Academy of Fine Arts), Copenhagen, have forwarded their eighth yearly report, containing a list of members, an account of the Academy schools, the additions to its library, &c.

A *Report* of the work done and general information relating to the Public Works Department of the Johannesburg Gezondheids Comite, South African Republic, for the year ending 31st December 1895 has been received from its compiler, Mr. Charles Aburrow, Town Engineer.

The Architectural Association have forwarded their Brown Book, issued for the Session 1896–97, containing a list of the lectures promoted by the Association, and the usual useful information for students.

REVIEWS. XLVII.

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SCOTCH ECCLESIASTICAL BUILDINGS.

The Ecclesiastical Architecture of Scotland from the Earliest Times to the Seventeenth Century. By David MacGibbon and Thomas Ross, Authors of "The Castellated and Domestic Architecture of Scotland." Vol I. Roy. 8o. Edin. 1895. [David Douglas, Edinburgh.]

Compared with England, Scotland is very poor in examples of Mediæval architecture, yet the remains of her early churches scattered sparsely over the country are still so numerous and important that a comprehensive and reliable description of them has long been eagerly desired by the student of British architecture. These remains are often so difficult of access, so fragmentary, and so destitute of any recorded history, that the difficulty of the task of fully illustrating and describing them has hitherto prevented any one from undertaking it. It is well, therefore, that now it should have been begun by men of so much experience and judgment as the authors of the volume before us. The excellence of their work on *The Castellated and Domestic Architecture of Scotland* fully warrants the expectation that their new venture will be brought to a successful conclusion, and exhibit the same discrimination in the selection of examples and the same regard for accuracy. In the meantime, only the first volume has been published, and, one gladly adds, has been presented by the authors to our Library. From this volume one can form a fair idea, not only of the general arrangement and scope of the work, but also of the character of the illustrations, and the careful way in which facts relative to a building are stated when they are likely to throw light on its architecture.

In Scotland, as elsewhere, many phases of architectural history can only be understood in the light of contemporary civil and religious history. With some knowledge of this we readily recognise, especially in the earlier remains, evidence of characteristic changes incident to the chequered fortunes of the country and the Church itself; and the authors have done well to include in their introduction a clear and interesting sketch of the ecclesiastical history of Scotland from the earliest times till the commencement of the twelfth century—a period little known or understood. They have also included in their Introduction a short treatise on the different styles of architecture, with illustrations taken from typical English examples, which will probably be acceptable to readers who have not previously studied the subject. The volume is to a considerable extent introductory, but it includes almost all the churches worthy of illustration—and one or two besides, erected previous to the thirteenth century—so that it covers a very interesting period, less known than those which succeeded it.

The early Scottish Church, founded by St. Columba in the sixth century, resembled the Irish Church in almost every particular; and the early Scotch churches were, like those in Ireland, very small, and wholly destitute of architectural embellishment. They were, curiously, frequently erected on small, almost inaccessible, islands, and some examples still remain to show that in other situations it was customary to group these small chapels and cells within a circular wall or cashel. Some of the numerous small and rude chapels illustrated may possibly have been erected by the immediate successors of Columba, but on the whole they are interesting from an archæological rather than from an architectural point of view.

Nearly two hundred years after the advent of Columba a remarkable change in the fortunes of the Church occurred. The Roman influence, which had spread rapidly northwards over England about this time, gained the support of the reigning sovereign in Scotland, who did his best to drive the Celtic clergy from the country. The Columban Church was both disestablished and disendowed, and the Roman Church was substituted. The consequent changes in the architecture of the period are significant, and there can be little doubt that some of the churches still remaining and illustrated by our authors belong to this remote period. The domination of the Roman Church at this time, however, was not destined to be of long duration. In the middle of the ninth century Kenneth McAlpine made a vigorous effort to reinstate the Celtic Church, and induced many of the Irish clergy to go over to Scotland. Again, we have interesting memorials of this change in the round tower and church on Egilsey, the round towers of Brechin and Abernethy, and one or two square towers and other buildings, unmistakably showing the influence of contemporary Irish art. During the trouble and disorder of the tenth century we rather lose the thread of the architectural story, and we hardly feel on safe ground again till, under the fostering care of Malcolm Canmore and his sainted queen, the Roman Church gains complete ascendency. For about two hundred years after that event the ecclesiastical architecture of England and that of Scotland were practically identical, England, if anything, leading in the newest fashions.

As already indicated, the authors have adopted a chronological classification, and in the present volume, after describing at considerable length what may be almost called the prehistoric remains, their work greatly increases in interest for the architectural student when they commence to deal with the buildings of the Norman and transitional periods. The more important examples in these styles, such as Dunfermline Abbey, Kelso, Jedburgh, and Kirkwall Cathedral, are very fully illustrated by plans, and by geometrical and perspective drawings, while others of less importance receive quite as much notice as they merit. The descriptions are also careful and full. When criticising the theories of others we are generally disposed to agree with the authors, and it is evident that, as a rule, their opinions are the result of personal examination and research. We should, perhaps, notice what appears to be an exception to this rule, showing how easily error may creep in. It is remarked (pp. 346–81) that there are only two or three examples in Scotland of Norman doors having carved tympanums, *e.g.* the doors at Linton and Abercorn; but the fact is that in neither case is the tympanum a specimen of Norman work. In both, the tympanum has been enriched by the introduction of part of a Celtic sculptured slab. The successors of the Culdees were quite accustomed to treat these monuments of their predecessors unceremoniously, and frequently used them as ordinary building materials; but it is also worthy of notice that neither of these doorways is in its original position, and there is every probability that they were rebuilt as we see them in comparatively recent times.

The recorded history of ecclesiastical buildings in Scotland is, as has been already remarked, exceedingly meagre, and the identification of building operations recorded is seldom practicable. In determining the age of the examples noticed the authors deal with the evidences available with skill and commendable caution, and we believe their conclusions on the subject will be generally accepted. In a few cases, however, one can hardly agree with them. For example, the date assigned to the church of St. Regulus at St. Andrews seems too late. In this instance the opinion of well-known antiquaries has been adopted—namely, that "this church must be the 'basilica' erected by Bishop Robert *after* 1138." This is clearly erroneous. Norman architecture was well understood in Scotland before the date indicated. Indeed, most of the transitional work—so well illustrated in this volume and the magnificent choir of St. Andrews Cathedral were executed in the twelfth century. Possibly the church erected by this Bishop about the middle of the twelfth century was that of which the base alone now remains, a short distance to the north-east of the cathedral. At all events, we do not hesitate to say that it was not the church of St. Regulus, every detail of which, as well as the character of the masonry, proclaims its near relationship to the earlier Celtic version of Romanesque exhibited at Abernethy and Brechin. It is, indeed, difficult to imagine that this singular edifice could be erected after the accession of Malcolm Canmore and the establishment of intimate relations between the English and Scottish Churches.

The difficulty which presents itself here and elsewhere in determining the proper chronological order in which the examples should be ranged suggests the idea that a topographical arrangement would have been better in many ways than that which the authors have adopted; for the aim of the work is not merely to present to the reader a series of examples illustrating the development of church architecture during successive centuries, but rather to present him with an exhaustive illustrated catalogue of all remaining examples worthy of notice. It is, indeed, hardly possible to adhere strictly to a chronological classification, as all the more important buildings belong to different periods—sometimes the early and sometimes the late styles preponderating—and hence a difficulty in deciding in which category the building should be placed. It is probably due to this that in the volume under notice we have no description of the round tower at Brechin, which ought properly to have followed that of Abernethy. The probability is that the description will be given in a succeeding volume, along with the description of Brechin Cathedral, a structure of much later date than the tower, and having no affinity with it. The examples are so numerous and so complex that one foresees a good deal of difficulty in maintaining the chronological arrangement without the risk of anachronistic peculiarities and perplexities.

If one cannot entirely approve of the arrangement of the subject in this particular, one can speak with the most cordial approval of the book itself. It is well got up in every way. It has a useful index, and reference is further facilitated by the name of the example under notice being plainly printed at the top of the page. The illustrations, though necessarily to a somewhat small scale, are clear, readily understood, and sufficiently numerous to allow the reader to form a correct idea of the building represented. They are also, so far as has been observed, accurate. The authors are to be congratulated on the successful completion of this first instalment of their praiseworthy undertaking, in which they deserve the aid and encouragement of all lovers of our ancient architecture. There can be little doubt that if the work is completed with the same fulness of illustration, and the same cautious and discriminating exposition of relative historical facts, it must at once be recognised as the standard work on the subject.

Glasgow. JOHN HONEYMAN.

NOTES, QUERIES, AND REPLIES.

Election of Fellows.

From R. F. CHISHOLM [*F.*]—

As circumstances over which I had no control compelled me to leave the July meeting before the discussion on the subject of the Election of Fellows closed, and as I shall be abroad when the next meeting takes place in November, I would crave a space in the Institute JOURNAL to write what I should wish to have said. As my work lies entirely abroad, my views are wholly unbiassed by local considerations of any kind.

At the last General Meeting there appeared to be a disposition to turn the discussion into such side channels as illicit commissions, and the conduct of members to each other professionally—both important matters in their way; but the question laid before the members—the rules laid down for the election of Fellows—is so all-important to the welfare of the Institute that until that is settled all side issues of every kind should be dropped.

It is hardly straining a parallel to liken our Institute at the present moment to a house divided against itself, for it is composed of two distinct bodies of gentlemen, the Fellows and the Associates, who not only gain admission in different ways, but seek to attain excellence by traversing different roads. On the one hand, we have the Associates proving their qualification for membership by passing an examination prescribed by the Fellows, who reserve no rights of rejection. On the other hand, these same Fellows, who prove their qualifications for membership by actual practice, are themselves subjected to the uncertainties and caprices of the ballot. With such a state of affairs it requires but a modicum of the spirit of prophecy to foretell the time when all power must rest in the hands of the junior body, the Associates; for, while there is no limit to the numerical increase of these gentlemen, they can, by arranging their votes, decrease the number of Fellows; indeed, by steadily blackballing candidates for Fellowship and declining to become Fellows themselves, the governing body might be eventually snuffed out completely. The Council, doubtless foreseeing this improbable though possible future, have very properly laid the whole matter before the members, and invited discussion on certain reforms which they deem sufficient to meet the position. These reforms are labelled A, B, C, and D. The Council also quote the suggestions of the ex-President, who accounts for the falling off in the number of Fellows by reason of "architects of mature age and extensive professional experience hesitating to take their chance of election at the hands of younger men," and his proposal that "the election of the class of Fellows be in future confined to the Council." The first of these suggestions raises the reflection that as the large numbers who sought and obtained Fellowships in 1888–89 were presumably men of the same calibre as those declining to come forward now, the younger men must at that time have behaved differently. Either they were unconscious of their power, or for certain reasons they were loth to exercise it. As regards the proposal, if the present position is due to certain acts of the Council meeting with the disapproval of the majority, that same majority is hardly likely to vote and invest it with still greater authority.

Mr. Aston Webb thinks that too much is made of the position—that it is merely a receding wave which in no way indicates the turn of the tide. Against this view, however, we have Mr. Cates's opinion, and he regards the present condition of affairs as serious, and demanding strong reforms.

It appears to me that the Council's recommendations, with the exception of A, apart from being ill-defined and shadowy, do not touch the vital point; B suggests an alteration in the form of voting; C emphasises an existing regulation; and D merely proposes a circular letter. The vital point, by the Council's own showing, lies hidden in recommendation C. The present difficulty, they say, "arises from the uncertainty that at present exists as to the basis on which the election of Fellows is conducted." Now, paragraph C, in place of systematising the present regulations, merely states that "attention is to be called to the requirements of the Council as to the drawings, &c., accompanying an application for Fellowship," leaving the basis on which the election of Fellows is conducted untouched! Indeed, the paragraph as it stands savours more of an explanation of something which has occurred in the past than a clearer definition for the future—a kind of promise that the Council will in future enforce regulations more strictly. The key to understand this recommendation is furnished by Mr. Cates. He says an idea prevailed abroad that it was only necessary to be duly proposed and seconded in order to become a Fellow of the Institute. Now, such an idea could only have arisen from an actual, though doubtless unintentional, lowering of the standard of requirements by the Council. Rightly or wrongly, I myself was under the impression that the standard for admission had been altered, and actually proposed a man who was, under the existing regulations, very properly declined. Previous to this occurring, however, I had gone through the ordeal—a very unpleasant one—of declining to propose members who were subsequently admitted as Fellows without any difficulty. With the house divided against itself, it seems to me impossible to avoid a fluctuating standard for the admission of Fellows. The desire to increase the funds and advance the interests of the Institute by *admitting* Fellows, and the desire to raise the standard of ability by *excluding* Fellows, are antagonistic forces irreconcilable, and any recommendations which leave untouched this "pull baker, pull devil" system must be inadequate to meet the position.

Again, if the acuteness of the present position is brought about by the action of the body of Associates, we may ask why this body has only recently made its power felt; and the reply to this question will furnish an additional argument that the present recommendations of the Council are inadequate. In 1887 the cry to would-be Fellows was, "Come in, come in! Our doors will be closed in five years; after 1892 no one will be admitted except by examination." 1892 arrived, the doors remained open as before, with the following results. In 1892, just before the close of the stipulated period, upwards of forty-five Fellows were added to the existing number. In 1893 only three additional Fellows were added. In 1894 we have a minus number of seven, and in 1895 a minus of nineteen! These figures surely show that the Associates waited patiently for the arrival of 1892, and then finding that nothing was done, and the promises of 1887 unredeemed, made their power felt.

The recommendations of the Council make no actual concessions to this power; but while they promise a stricter observance of the lines denoting the qualifications of Fellows, they actually ask for greater power to overstep those lines. "We promise," they say in recommendation C, "that none but duly qualified men shall be elected as Fellows, on condition that you allow us to clip your wings by adopting recommendation A. Trust us more and we will do better." They then define the measure of the trust—two white balls to one black! But even this is only an estimate, and when once the principle of the alteration is conceded, the Council may hereafter apply for further concessions until the black balls stand to the white balls as ten to fifteen, for that is the proportionate numerical strength of the Fellows and Associates!

If the above reasoning is sound, the present position can only be met by redeeming the promise made in 1887, and enforcing the by-law compelling Fellows as well as Associates to undergo examination. The worst that could happen would be no applications for Fellowship, but this state of affairs would not last. For a time the funds of the Institute would suffer, but if we compare the present position with that of 1885 we find an ample margin for tiding over a bad period. In 1885 the total number of members amounted to 1,079, and the income to £3,067; in 1895 the numbers had risen to 1,521, and the income to £4,547.

Before the Associates' examinations were introduced it might have been open to question whether the Institute, like the Institution of Civil Engineers, should not have opened its doors to all practising architects of repute duly vouched for by a certain number of the Fellows, leaving examinations in the hands of legally constituted colleges. As it seems impossible for any one to devise an examination calculated to test real merit, much may be said in favour of this view. This time has now passed, however. For good or for evil, the Institute seems committed to the examination system, which should now be carried out in its entirety, and both Fellows and Associates put on the same footing. It seems not improbable that when once the examination for Fellowship is clearly defined, many existing Fellows will volunteer to pass it. I would suggest, as a test for Fellows, six hours' drawing in any style selected by the candidate himself, without books of reference of any kind, the result of this test and photographs of executed works designed by the applicant to be on view in the Institute Meeting-room for three full days before the ballot. Such an examination would demand no special study, and from all I can hear it would be sufficient to meet the views of the Associates.

It is not improbable that when the whole body of members consist of men capable of undergoing the artistic test above indicated, the Institute will move forward to the high position it ought to occupy. It is, perhaps, quite right that the highest honour falling to the architect—that of Royal Academician—should lie in the hands of a body of gentlemen not architects themselves, but so long as this honour falls, as at present, as frequently on the outsider as on a member of the Institute, our influence is not what it ought to be. We should be in a position to prove to the Academicians that we understand our art better than they do, and although they may exercise the right of selection according to their own artistic ideas, that selection should fall on Fellows or Associates of the Royal Institute of British Architects.

From THOMAS B. WHINNEY [*A.*]—

The necessity for the quiet and temperate discussion of the vexed question of admission to the Fellowship of the Royal Institute is so apparent that no excuse is requisite for the setting down of one's thoughts in regard to it. I have waited before doing so in the hope that some more prominent member of the body of Associates might speak out, but there seems to be a dearth of such expressions of opinion. I am the more inclined to write about this question because, although I am merely a voice from the crowd, "an infant crying for the light," unknown by name even to the vast majority of members, I am one of those Associates to whom the Council's projected message concerning the Fellowship applies. I have been more than seven years in practice as an architect, but I hold that something more than a mere lapse of seven years from the time of admission to the Associateship is required to entitle a man to the distinction of the Fellowship. In my opinion, the time does not arrive until a man is known to his fellow-members, not by his tongue or his pen alone, but by his works. In advancing this view I wish to bear in mind that we are first and foremost a body of architects incorporated for the advancement of architecture; and therefore a member who has arrived at the dignity of a Fellow should be one who can show that his practice as an architect has passed the initial stages. I hope my meaning will not be mistaken. We are allied too closely to the purely professional man to altogether abandon the course pursued by other professional bodies. We cannot make the test one of artistic merit, but we can insure that the Fellow is a competent master of building, which is a very large part of the art of design.

It is not now necessary to go further into the question as to the necessity of the existence of the Royal Institute. In the face of the number of its members it may be taken for granted that such a necessity exists, and I may pass at once to the discussion of its various grades, and in doing so need only concern myself with the two classes known as Fellows and Associates. The latter class are admitted after examination, and do not have to submit to a ballot of the general body. The Fellows have, on the contrary, to submit to that ballot. The Associates have full voting powers on all subjects, and the only difference between the two grades is that of proportional representation on the Council and on the committees. The difference on the committees is so small that it is hardly worth troubling about. There remains, therefore, to the Fellows the much larger representation on the Council as the only advantage that they possess over Associates, and for this they have to pay an additional two guineas a year.

Is there not, therefore, a great possibility that the Associate may be thoroughly satisfied with his position as such? This evil, to my mind, has arisen from the great mistake of giving the Associates too much voting power. I think it is a mistaken idea that the younger Associates should be given the same power as their seniors, and that there ought to be some greater compensation to balance the larger subscription. I think the share in the government of the Royal Institute should be something to strive for, something to attain—a power much better exercised when "the heyday in the blood is tame and waits upon the judgment." I do not say that the Associate should have no voting power, but he should not have so much as the Fellow. Even at the risk of making an unpopular remark, my opinion is that the source of the evil is the too great powers of the Associates. This evil is, however, unchangeable; the vote having been granted, the numerical superiority of the Associates would prevent its being taken away. It only remains, therefore, to consider the possibility of procedure from the lower grade of membership to the upper. The mere money question might be solved by raising the subscription of the Associates to three guineas instead of two, and this proceeding is surely quite justified by the very slight difference between the status of the two grades; but even this, though an easy solution of the money difficulty, would not solve the vexed question of the Fellowship. With regard to this, I venture to make a suggestion, and that is, that the voting on the election of Fellows should be abolished. Provided that a man has satisfied the examiners as an Associate, I think that procedure to the higher rank should be by right as soon as the Associate can prove that he has earned that right by his work. Many Associates might not reach the Fellowship—which may seem hard, but surely is just, and would tend to the aggrandisement of the Fellow. If a man never carries out anything larger than a gate lodge he surely has no right to sign himself F.R.I.B.A. I would not do away with the veto, but I would take that veto out of the hands of the general body and place it in the hands of the Council, with a hope that it would hardly ever be exercised. For it is not election to a club or a close body that is under discussion, nor is it even an election of a representative Council, which is properly a case for election, but the right of a practising architect to become a member of the body which rules and directs his profession.

That right has been acknowledged so far as the election of an Associate is concerned; why should it not be acknowledged by the abolition of the election to the Fellowship? Why should a member with a private grudge have the power of exercising it anonymously against a man's professional character? It is right, undoubtedly, that there should be some power of veto, but it should not be by the stiletto stab of the black-ball dealt by an unknown hand. It is right that there should be a wholesome fear of doing wrong before our eyes, but the objection to it should be made in full light of day. It is right that a man's object should be to earn the esteem of his fellow-workers.

The candidate for the Fellowship could be nominated in the usual way by three Fellows, and his name would be brought before the Council, who would require him to produce evidence that he had done work to justify his Fellowship. Then his name might be put up in the Meeting-room, with the intimation that, having satisfied the Council, he would pass to the degree of Fellow, provided that no member of the Institute should produce within a certain time evidence that he was unfit for such a position. If such accusation were made, then an inquiry should take place, with full power to the candidate to hear the accusation and make his reply. This would be nothing else than the power already possessed by the Council of expelling an obnoxious member. Thus proceeding to his Fellowship in the full light of day, a member would think twice before he lightly brought accusations of unprofessional conduct against a candidate. The private grudge would be done away with. It might be that occasionally some questionable member would creep in; but surely the right principle is, that better the guilty should escape than the innocent should suffer. And it is further to be remembered that the candidate is already an Associate, for I agree very strongly with the contention of the Associates, that no Fellow should be elected except from the body of Associates, and certainly no man who has failed to pass the examination as an Associate should be allowed the possibility of obtaining election as Fellow. I protest very strongly against bowing the knee of humble supplication to the wandering sheep who disdain the Institute fold. That they are outside is a pity, but such holding aloof is purely selfishness on their part. To my mind, the Royal Institute is quite strong enough without them, and would strengthen its prestige by showing a bolder front to the outside world.

The Galli Bibiena Family.

From John Hebb [*F.*]—

The last of the Galli Bibiena family—Dr. Michaele Galli Bibiena—has recently passed away at Bologna at the age of 90. Many members of this family were celebrated in art in the seventeenth and eighteenth centuries. The first of the family who distinguished himself was Giovanni Maria Galli Bibiena, born in 1619, who painted some noteworthy pictures. Ferdinando Galli Bibiena of Bologna (1657–1743) was superintendent of buildings at Piacenza and Parma for the Dukes of Parma, built the theatre at Parma, and painted scenery. He left three sons, Giuseppe, Alessandro, and Antonio. Guiseppe (1696–1756) succeeded his father in the service of Charles VI.; Alessandro entered the service of the Elector Palatine, and built the theatre and the Jesuits' church at Mannheim; Antonio (born at Parma 1700, died at Milan 1774) was first employed in theatrical decorations, executed several works in Italy, Vienna, and Hungary, built theatres at Pistoja, Siena, and Pavia, and enlarged the Pergola theatre at Florence. In 1756–63 he built the communal theatre at Bologna, which is esteemed one of the most artistic and the most successful theatre, acoustically speaking, in Italy. This theatre has been since frequently altered and enlarged, the last time about the year 1826. The theatre at Treviso was designed by him, but carried out by Miazzi about 1780. He was a member of the Clementine Academy. Francesco Galli Bibiena, brother of Ferdinando, born 1659, went to Nancy, and built the theatre there; his son Giovanni Carlo went to Lisbon, and died there in 1760.

MINUTES. I.

At the First General Meeting (Ordinary) of the Session 1896-97, held Monday, 2nd November 1896, at 8 p.m., Professor Aitchison, A.R.A., *President*, in the Chair, with 47 Fellows (including 18 members of the Council), 40 Associates (including 1 member of the Council), 4 Hon. Associates, and numerous visitors, the Minutes of the Meeting held 27th July 1896 [Vol. III. p. 540] were taken as read and signed as correct.

The President announced the decease of the Secretary, William H. White [*F.*], referred in feeling terms to the long and distinguished services rendered by him as Secretary of the Institute and as Editor of its publications, and read translations of letters of sympathy and condolence which had been received from Corresponding Members abroad, and from the Société Centrale des Architectes Français [pp. 13, 14]. Further letters of condolence from the Allied Societies, the Institutes of Dundee and Glasgow, having been read by the Hon. Secretary, it was

> Resolved, That the Royal Institute of British Architects desires to record its deep sense of appreciation of the invaluable services rendered to the Institute by the late William H. White [*F.*], during his eighteen years' tenure of the post of Secretary, and as Editor of the Institute Transactions and Journal; and to express its profound sorrow for the irreparable loss the Institute has sustained by his untimely demise. The Institute also desires to offer to Colonel G. A. White, late Commanding 1st South Lancashire Regiment, an expression of the most sincere sympathy and condolence on the death of his brother.

The Hon. Secretary announced the decease of the following Fellows, viz.:—Frederick John Francis, Stephen Salter, and Robert Walker.

The Hon. Secretary announced the results of the Statutory Examinations qualifying for candidature as District Surveyor in London, and as Building Surveyor under local authorities, held on the 29th and 30th October, and read the names and addresses of the candidates who had passed, and to whom the Council had granted Certificates of Competency [p. 16].

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, and admitted by them to candidature, were recommended for election, namely:—As FELLOWS, Frederick Bligh Bond [*A.*] (Bristol); Harry Percy Adams (*Inst. Silver Medallist* (*Drawings*) 1888, *Godwin Bursar* 1894); George Alfred Hall [*A.*]; Alexander Marshall Mackenzie, A.R.S.A. (Aberdeen). As ASSOCIATES, Richard Harold Smith (*Probationer* 1889, *Student* 1893, *Qualified* 1896) (Bristol); Richard Croft James (*Probationer* 1889, *Student* 1892, *Qualified* 1896) (Bristol); Segar Owen (*Probationer* 1891, *Student* 1894, (*Qualified* 1896) (Warrington); Louis Antonio Hayes (*Qualified* 1896) (Oldham); Harry Sutton Chorley, M.A.Oxon. (*Probationer* 1891, *Student* 1893, *Qualified* 1896) (Leeds); Thomas Culy Grimble (*Qualified* 1896) (Lytham, Lancs.); Herbert Edgar Napier (*Qualified* 1896); George Fox (*Qualified* 1896); Thomas Denton Brooks (*Probationer* 1890, *Student* 1893, *Qualified* 1896) (Doncaster); George Sinclair (*Qualified* 1896) (Glasgow); William Thomas Grewcock (*Probationer* 1889, *Qualified* 1896) (Leicester); Sydney Dawe (*Qualified* 1896); Charles William Harris (*Probationer* 1893, *Student* 1894, *Qualified* 1896) (Liverpool); Robert Marchant (*Probationer* 1890, *Student* 1892, *Qualified* 1896) (Kent); Frederick Chatterton (*Probationer* 1892, *Student* 1893, *Qualified* 1896); James Wrightson Bateson (*Qualified* 1896); William Henry Stanbury (*Qualified* 1896) (Gibraltar); John Malcolm Dossor (*Qualified* 1896) (Newport, I.W.). As HON. ASSOCIATES, Francis Bond, M.A.Oxon., F.G.S.; Henry Ernest Milner, F.L.S., Assoc.M.Inst.C.E.

The Opening Address of the Session having been delivered by the President, a Vote of Thanks, moved by Mr. Penrose, F.R.S., *ex-President*, seconded by Dr. Murray [*H.A.*], F.S.A., and supported by Colonel Lenox Prendergast [*H.A.*], was passed to him by acclamation, and briefly acknowledged.

The proceedings having been thus brought to a close, the Meeting separated at 9.45 p.m.

LEGAL.

The London Building Act.

SCOTT *v.* WALLEN.

At Marlborough Street Police Court on Thursday, 8th October, Mr. Frederick Wallen, District Surveyor for the Parish of St. Pancras West, was summoned before Mr. Plowden to show cause why a notice of objection, with respect to certain proposed pilasters at No. 73, Charlotte Street, Tottenham Court Road, should not be quashed.

The building owner, Mr. E. Sanderson, proposed to form a new shop front in the flank wall of his premises, immediately in front of which there had always existed a small area, belonging to him, inclosed with railings, and about 2 feet wide. It was contended on his behalf by Mr. O. H. Swann, solicitor, that sub-sections 3 and 8 of section 73 entitled him to project the shop front 10 inches beyond the external wall of his premises, and the pilasters on either side a greater distance (in this case 14½ inches).

Mr. Wallen, on the contrary, contended that the restriction as to the 10 inches applied equally to the pilasters as to the actual sashes of the shop front, expressing his opinion that the pilasters in question were not like "architectural decorations" to those mentioned in sub-section 8, inasmuch as none of these would reach the pavement and cause an obstruction.

Mr. P. H. Adams put in explanatory plans of the matter in dispute, and also drawings showing how "window dressings" might come down to the pavement.

Mr. Plowden said the matter was a highly technical one, but that having considered section 73 he was of opinion that the pilasters fell within the "exceptions" of sub-section 8 of that section, and made an order setting aside the notice of objection of the District Surveyor.

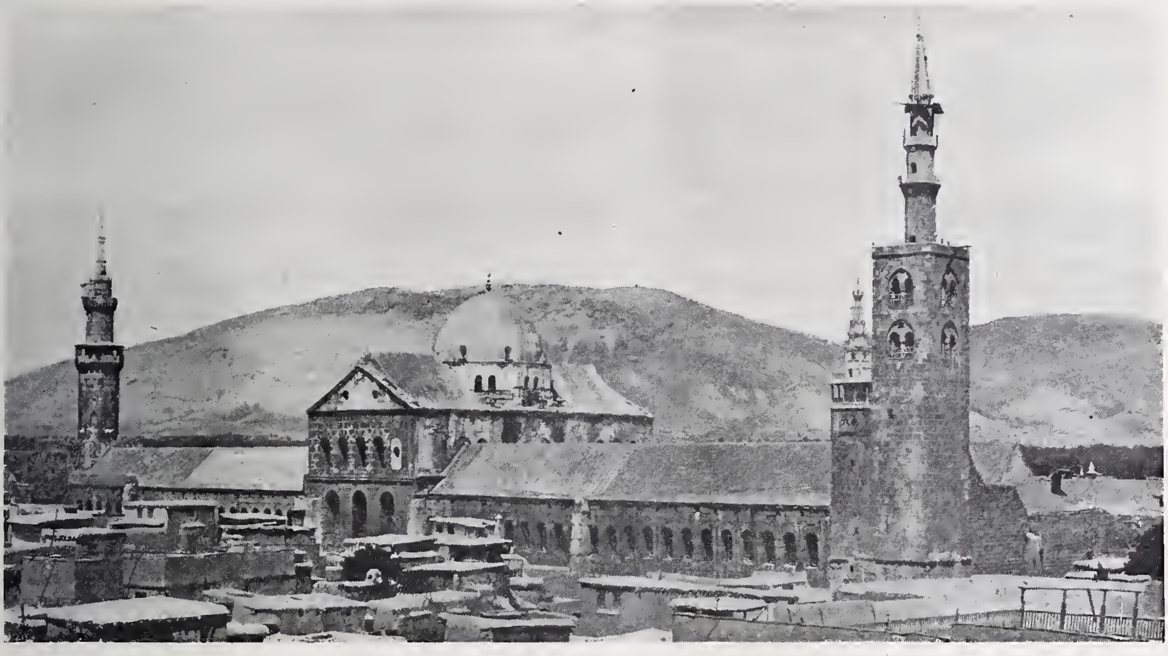

FIG. 1.—GENERAL VIEW OF THE MOSQUE FROM THE SOUTH-EAST.

THE GREAT MOSQUE OF THE OMEIYADES, DAMASCUS.

By R. Phené Spiers [*F.*], F.S.A.

Read at the General Meeting, Monday, 16th November 1896; and registered at Stationers' Hall as the property of the Royal Institute.

In the year 1866, when I visited Damascus, I was travelling with a French "Grand Prix de Rome," M. Emanuel Brune; and through the instrumentality of the French Consul, who had considerable influence at Damascus at that time, we obtained a special permission to draw within the Mosque. The French Consul was kind enough to lend us his dragoman, and with a guard of six soldiers to keep off the true believers, who objected to our presence, and who, if I remember rightly, were all blind men, we drew for two whole days in the great transept and the court. I have been informed since that such permission was quite exceptional, owing to the intense fanaticism in the city.

My drawings remained in my portfolio till the beginning of 1894, when I first heard of the great fire which had taken place on 14th October 1893. Thinking that the principal drawing I had made of the great transept might be of some interest, I sent it to the Editor of *The Builder*, with a short description, and it was published on 20th April 1894. Its publication led to a discussion on the existing buildings, and as to whether any portion of them formed part of the Church of St. John, said to have been built by Arcadius in 405, and transformed into a mosque, with various additions, by the Moslem Khalif al Walid in 705.

The site was originally occupied by a Roman temple, surrounded by a temenos or colonnaded enclosure. This temple was appropriated by Theodosius, and transformed into a church, dedicated to St. John, in the middle of the fourth century. At the commencement of the fifth century, Arcadius, his son, is said to have enlarged it—to what extent is not known. At all events, on the taking of Damascus by the Saracens, in 634, the church was sufficiently large to be divided into two parts, the Moslems taking the eastern half, and the Christians

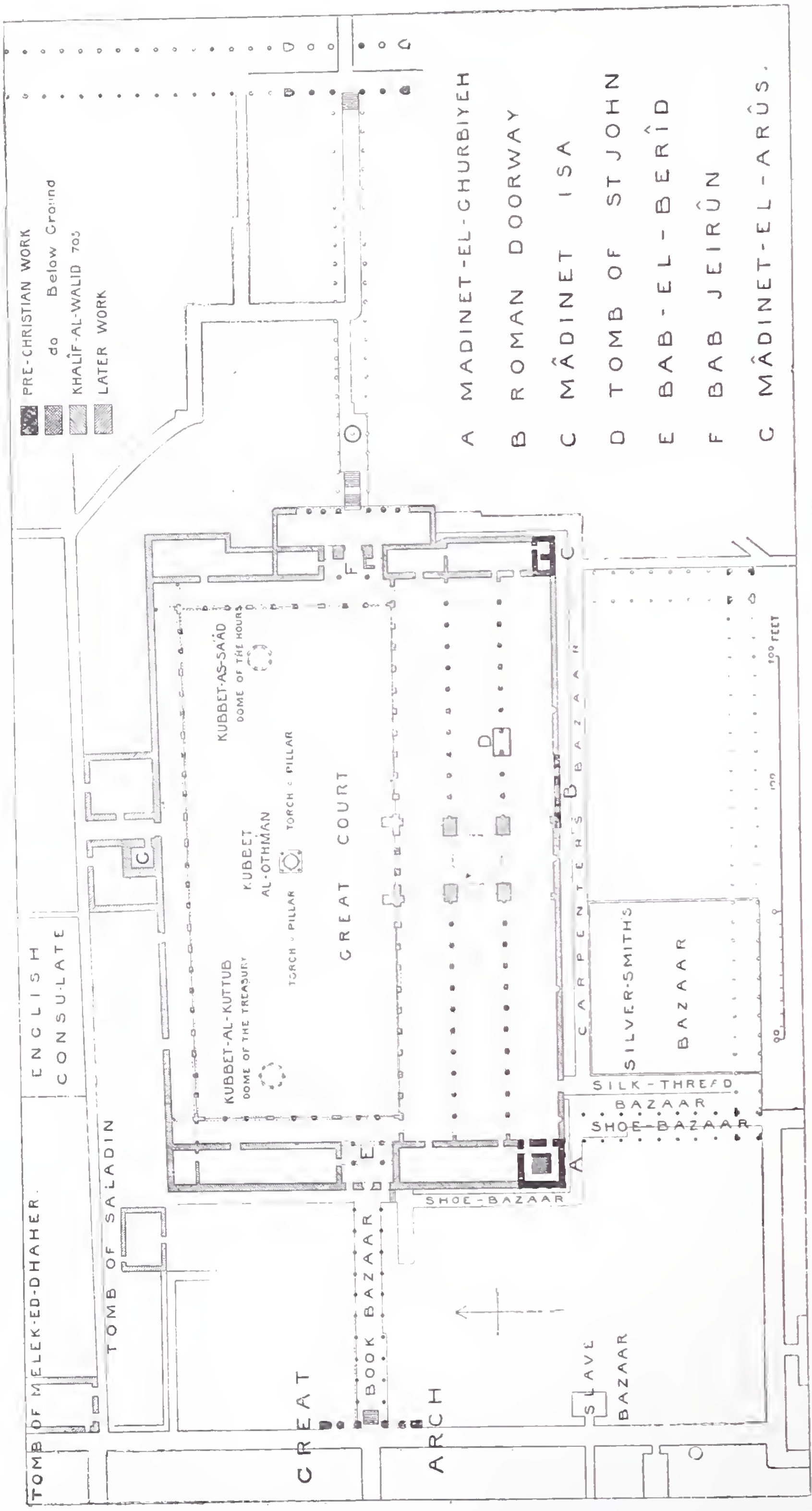

FIG. 2.—THE GREAT MOSQUE OF THE OMEIYADES, DAMASCUS. PLAN.

retaining only the western half, both entering, however, by the same great doorway [fig. 13, p. 34], which still exists, of the Roman temple.

The discussion above referred to led me to examine more carefully the plans of the Mosque which had been published, and which I found to be either incomplete or inexact. The most trustworthy plan was that published in Fergusson's *History* in 1874, taken from measurements made by Mr. (now Sir) Charles Wilson. This, however, did not include the outer walls, or the various approaches which it was necessary to obtain in order to trace the remains of Arcadius's church, and other Greek, Roman, or Christian buildings. In this I was assisted by the plan and description given by the Rev. J. L. Porter in his work entitled *Five Years in Damascus*, published in 1855. Mr. Porter states that the greater part of the measurements from which his plan was constructed was given him "by M. Antôn Bulad, who obtained them from a Christian employed by the authorities a few years ago to repair the interior of the Mosque, and who was not content with a general plan, but measured every pillar and pier in the place." Notwithstanding that care, the photographs proved it to be incorrect in many particulars. Porter's description was derived from a MS. written by a celebrated historian of Damascus, Ibn' Asâker, prior to 1193; from Ibn' Kethîr, also a native historian, who wrote the work *El Badâyat w'en Nahâyat*, 1396; and from other Moslem authors. It was from a perusal of Ibn' Asâker's work that Mr. Porter was led to explore the exterior colonnades and triumphal arches; and in his plan those portions blacked in are the walls and columns he saw, others being in houses, or enclosed in modern walls to which he was unable to obtain access. Of the Mosque itself, and the vicissitudes to which it has been subject since the eighth century, I owe my chief information to the admirable translation of the works of the Mediæval Arab geographers made by Mr. Guy Le Strange, and published for the Committee of the Palestine Exploration Fund in 1890.

My best course will probably be to describe, first, the actual buildings of the Mosque and their adjuncts as they existed prior to the fire in 1893; then to give a brief sketch of the history of Damascus so far as it relates to these buildings; to follow with a research into the dates and original plan of the earlier remains, part of which will necessarily be speculative; and finally to give some account of the damage done by the last fire—for the conflagration of 1893 is the third large fire which has taken place since 705, when the Mosque was built by the Khalif al Walid.

I will begin my description with the Mosque itself. The main building runs east and west, and is built in between two towers at the south east and south-west corners respectively. It measures internally 446 feet by 123 feet. Exactly in the centre is an immense transept, running north and south, with a dome over the crossing; and on each side, viz. to the east and west respectively, a nave and aisles, or, more correctly speaking, three aisles (for the three divisions are of equal dimensions), each aisle being 180 feet long. On the north side is a court of the same length as the Mosque, and 160 feet from the north transept wall to the rear wall of the arcade which surrounds the court on three sides. The north wall and arcade are not parallel to the Mosque, the east wall and arcade being ten feet longer than those on the west. The two principal entrances to the court are on the east and west sides, by triple gateways with bronze doors. There is a third entrance on the north side. There are three minarets to the Mosque, one on the north side, supposed to be the oldest, and erected by the Khalif al Walid, the builder of the Mosque; and two others at the south-east and south-west corners respectively, built on the two towers before referred to. The great piers of the transept measure, exclusive of the casing, 13 feet by 10 feet. They are not, however, equidistant, being 32 feet apart from north to south, and 39 feet 6 inches from east to west. The transverse arches on the north and south sides of crossing are set back 3 feet 9 inches, so as to obtain above a perfect square

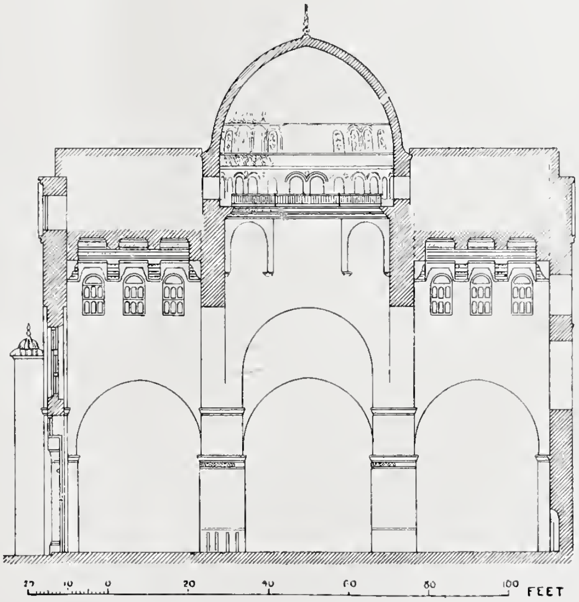

FIG. 3.—NORTH AND SOUTH TRANSEPTS AND CROSSING.

of 39 feet 6 inches. The angles of this square are vaulted over with squinch pendentives [fig. 6], above which runs a gallery, a portion of which is corbelled out. Above this rises the dome with two ranges of windows, one in the drum, the other in the dome. The dome is, I think, of stone, and covered with lead.

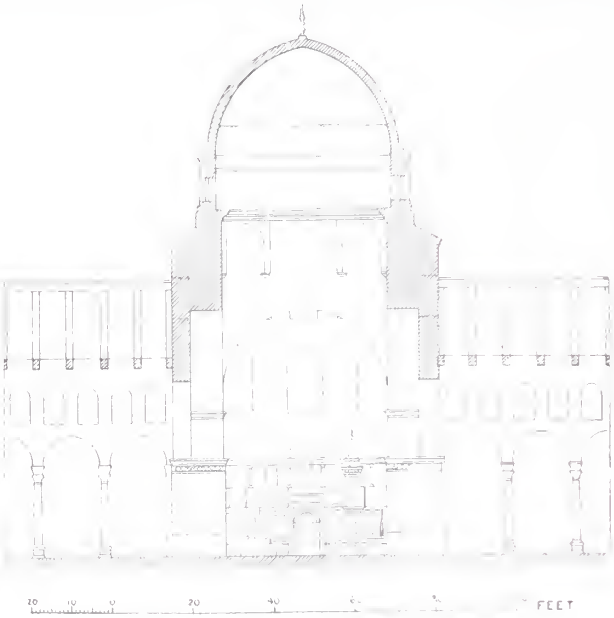

FIG. 4.—SECTION THROUGH NAVE AND CROSSING.

The north and south transepts have flat ceilings carried on beams [figs. 3 and 6] supported on corbels, all richly carved, painted in brilliant colours, and gilded. The dome, I should have said, is badigeoned in colours, which suggest a restoration of this century. The transept is lighted by the windows in the dome, by a range of windows in the north and south walls (in the former running above the triple arcade which forms the principal entrance to the Mosque), and by windows in the east and west walls, partially, however, blocked up by high-pitched roofs over the nave and aisles [fig. 5]. The nave and aisles, or the triple aisles, on the east and west sides of the great transept, are divided by an arcade of eleven bays, with columns taken from some more ancient edifice, raised on pedestals, and surmounted by ancient capitals and by dosserets. The dosseret is of Byzantine origin, and consists of a cubical block placed above the capital to carry a wall of greater thickness than the diameter of the columns. Above the arcades the walls are pierced with semicircular arched openings [fig. 4]. These open out into the side aisles, which are of the same height as the central aisle, the whole device being rendered necessary by the desire to give greater height to the structure than the columns afforded. A similar expedient was adopted in the Mosque of Cordova, in Spain.

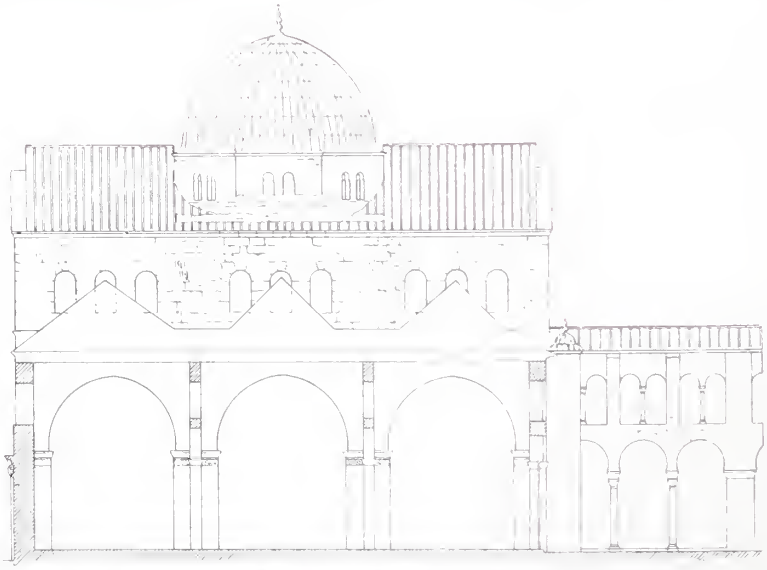

FIG. 5.—SECTION ACROSS THE EAST AISLES, SHOWING EAST WALL OF TRANSEPT.

I might here point out, while speaking of the arcades which divide the aisles, that it is the custom in mosques to run the arcades at right angles to the Mecca wall. The Mecca wall is a wall which runs at right angles to a line drawn in the direction of Mecca, and one or more niches are provided in this wall to point out to the true believer the direction he has to face when saying his prayers. This custom was

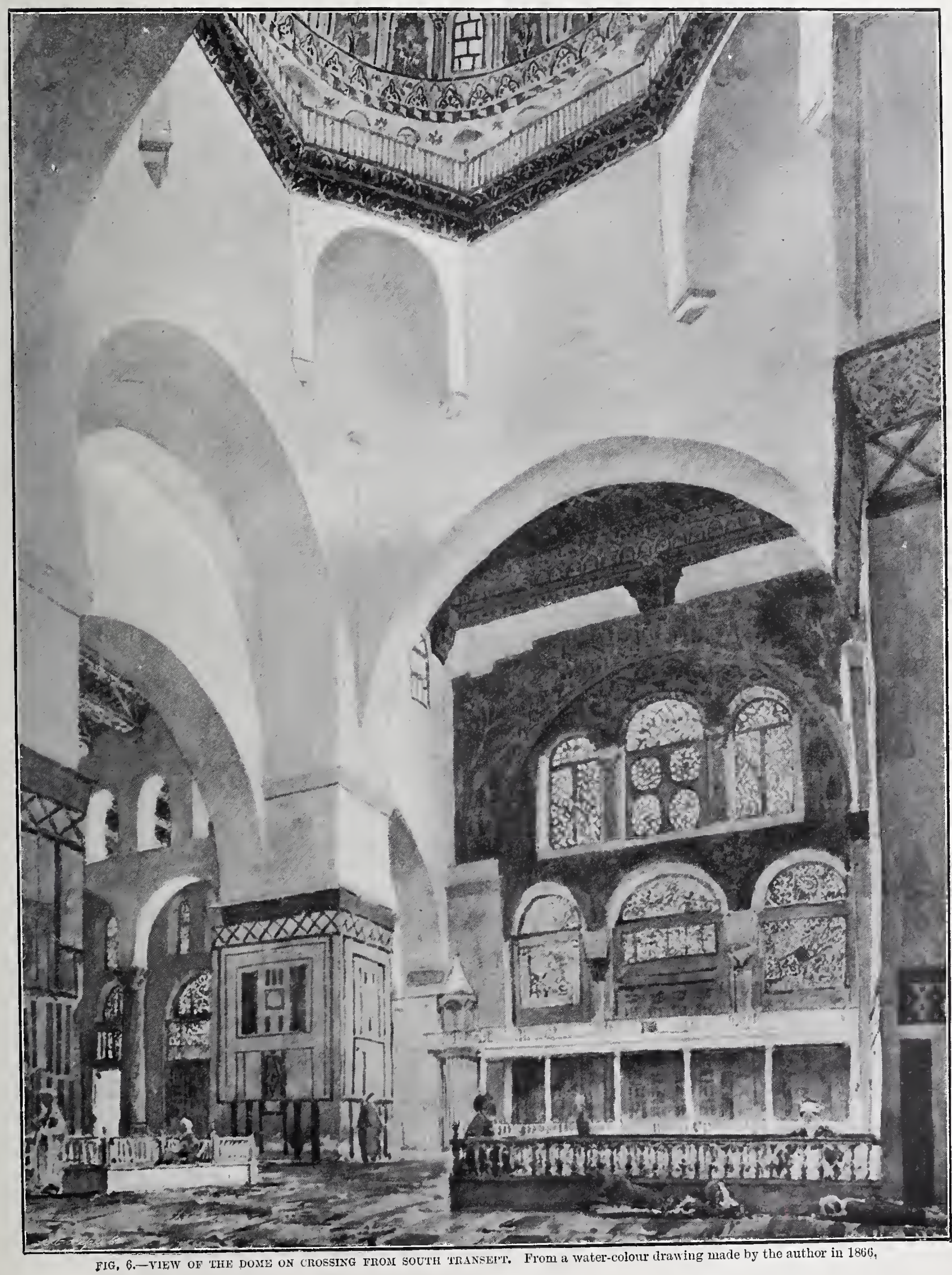

FIG. 6.—VIEW OF THE DOME ON CROSSING FROM SOUTH TRANSEPT. From a water-colour drawing made by the author in 1866,

insisted on by the late Mr. Carpenter when he read his Paper on the Great Mosque of Cordova;* and the fact that at Damascus these arcades run parallel with and not at right angles to the Mecca wall has probably led many to look upon the east or west wing of this Mosque as the original Church of St. John built by Arcadius. But there are exceptions to this custom, a notable one being the Mosque of Touloun at Cairo, built A.D. 877. It is evident, however, that in this latter case the architect decided to take advantage of the resistance to thrust which was afforded by the outer walls. In the Mosque of Amru, and in other mosques where the arcades run at right angles to the Mecca wall, all the arches have to be tied-in at the springing with wooden beams, which give a very ephemeral appearance to the structure, and in case of fire would at once destroy the whole building. Having immense piers to his transept, and thick walls at the east and west ends, Al Walid apparently allowed his Byzantine architects to carry the arcades from the piers to the east and west walls. The three aisles of the eastern and western wings were (probably in the fifteenth century) roofed with high-pitched open timber roofs covered with lead, masking the original windows in the east and west walls of the transept. The destruction by fire of these roofs has revealed the fact that not only were there windows on each side in the north and south transepts, but also in the crossing; and as these windows rise above, and are internally masked by, the great arches which carry the central dome, it proves conclusively that the dome and the arches which carry it were afterthoughts, and not at first contemplated. This circumstance perhaps also explains the peculiar arrangement of the arches. The transept as built was wider than the central aisle, but as it was deemed necessary to have a square centre, across the angles of which the squinches were to be thrown, this could only be obtained by setting back the north and south arches. The thickness of the north and south arches carrying the squinch pendentive is 7 feet, whereas that of the east and west is 9 feet, and to this latter dimension must be added the thickness of the original wall, 5 feet, making 14 feet. Mukaddasi, writing in 985 A.D., mentions the dome as if it formed part of the original structure; and, no other Khalif being cited as having added it, we must assume that it was Al Walid's work, but conceived and built by some of the workmen brought over from Byzantium. On the completion of the main building, skilled workmen from Persia, Byzantium, and India were employed by Al Walid on the mosaics, which occupied them seven years, and some of the Byzantine workmen might have suggested the erection of a dome for the mosaics, it being a well-known traditional form.

The trusses of the high-pitched open timber roofs above mentioned were placed closer than usual in such roofs, viz. 8 feet 3 inches centre to centre; and as the tie beams measured about 26 inches by 20 inches, not much of the open roof was visible. The four great piers of the transept and the south wall were encased with marbles enriched with arabesque inlays and borders of mosaic up to a height of 20 feet. In the centre of the south wall was the principal mihráb [fig. 7], or Mecca niche, and this was enriched with tier above tier of small arcades of marble with inlays of mother-of-pearl and mosaic, the semidome of the niche being decorated with diagonal coffering similar to that found in Roman buildings. The design of this mihráb resembles that of the Kalaoon Mosque at Cairo (1287); and the slender Corinthian columns on the west side, those of the mihráb in Sultan Hassan (1361). Portions, however, of the lower part are so Byzantine in style as to suggest its having been the original mihráb restored only after the fires of 1069 and 1400. The shell decoration in the tympanum of the lower range of arcades is similar to that which is found in the famous Ambo of Thessalonica, attributed to the end of the fourth century, so that this may be a relic of Arcadius's church transported to its present position. The inner wall of the north transept still preserves portions of the mosaic decoration of the eighth century [fig. 6], with which all the upper part of the walls and the dome were once covered.

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* *The Mosque-Cathedrals of Cordova and Seville, and some contemporary Arabic Buildings.* By R. Herbert Carpenter.—TRANSACTIONS 1882–83, p. 101.

The two wings of the Mosque are lighted by ranges of windows in the north and south walls, of the same size, and occupying almost the same position, as the openings already referred to as over the arcades dividing the three aisles. They, as well as the tympana of the arcades below on the north side, are fitted with pierced arabesque designs in stucco filled with coloured glass. These windows are known in the East as "kamariyas," or "shemsīyas." There are many examples in the South Kensington Museum, and they have already been described in the Papers read on *The Arab House of Egypt.** Ibn-Jubair, an Arab author, whose writings will be referred to later on, says "the upper parts of these" (viz. the tympana of the arcades on the north side) "are ornamented in plaster, that is, stamped out even as is the work in the windows."† There are on the north front on each side of the transept eleven arcades corresponding with those of the aisles; they are, however, carried on square piers, and the openings are fitted with framework and dôors. It is said that originally these arcades were carried on columns, so that virtually the Mosque was open to the court; in other words, that

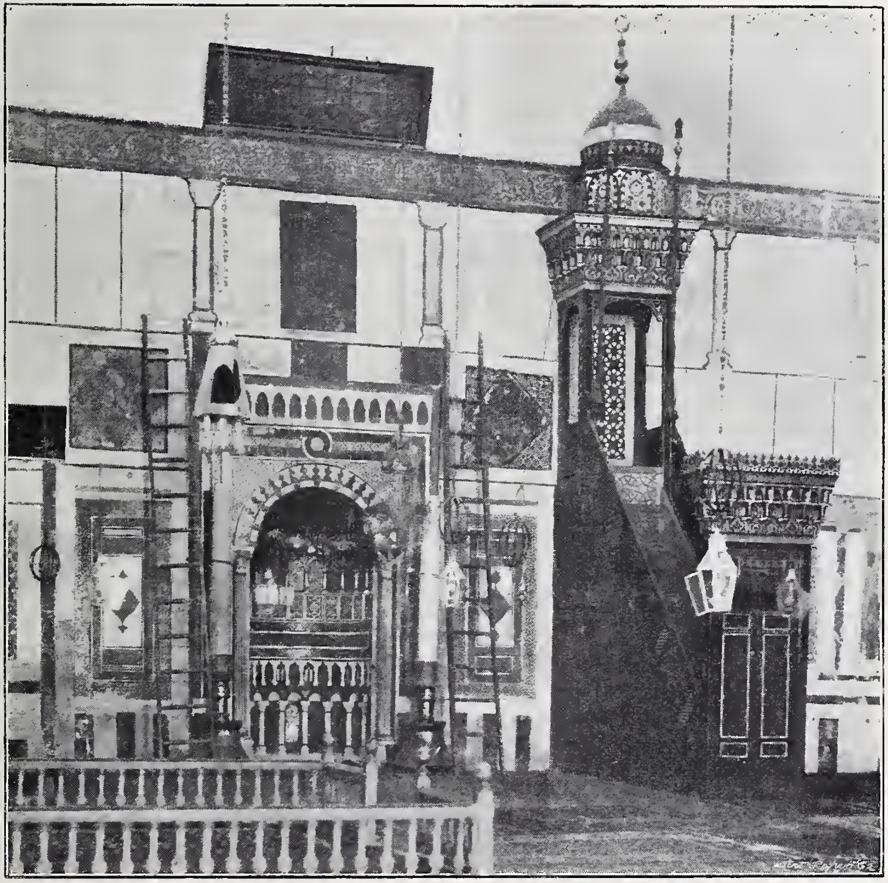

FIG. 7.—THE MIHRÂB AND MIMBAR AT SOUTH END OF TRANSEPT.

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* *The Arab House of Egypt.* By Count R. d'Hulst. With notes by R. Phenè Spiers and J. D. Crace.—TRANSACTIONS, Vol. VI. N.S. 1889–90, p. 221.

† Similar stucco-work fills the north and south windows of the transept.

the columns have been encased with masonry. I cannot find any authority for this, except that Ibn-Jubair speaks of fifty-four pillars free-standing; and as there are only forty columns in the two wings, and two in the north transept, there are still twelve to account for. Of the twenty-four square piers of these arcades, two are connected with the portico round the court, and two form part of a thicker wall which extends one bay to east and west of transept. Twelve of the sixteen piers remaining may have originally been columns: but there is no evidence of this in the actual piers, which look like solid masonry, and are quite unlike the encased piers of the arcade of the court to which I shall refer further on. The greater thickness of the north wall to which I have just referred must be looked upon, I think, as a sort of buttress to the arched recess of the north transept, especially as the arcade on each side is narrower by two feet than any of the others. At first I thought it suggested an earlier construction, but all the joints are carried through.

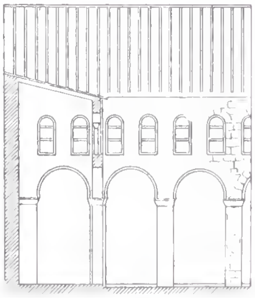

FIG. 8.—NORTH-EAST ANGLE.

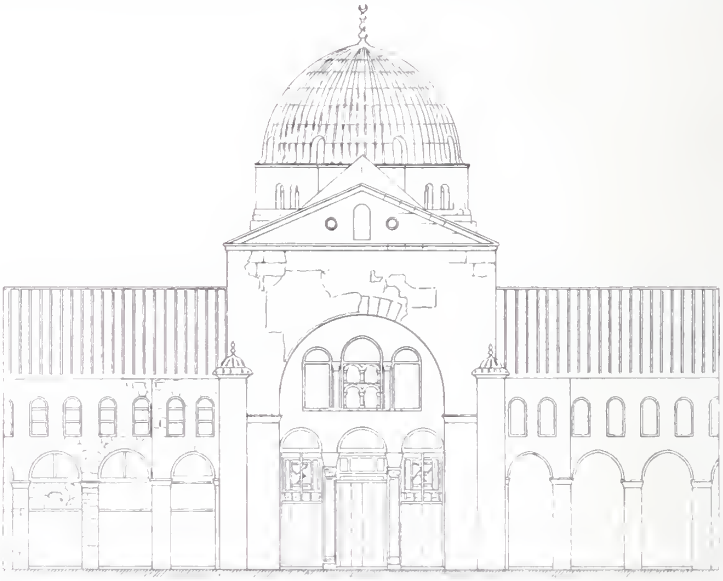

FIG. 9.—NORTH FRONT OF MOSQUE FACING COURT.

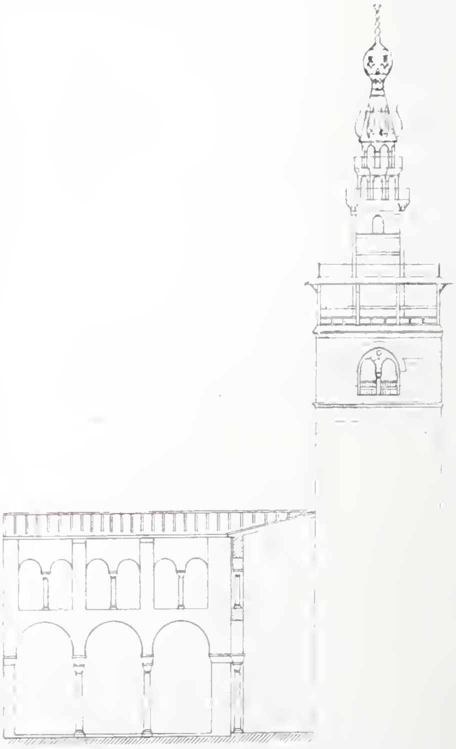

FIG. 10.—ARCADE OF COURT AND MINARET OF THE BRIDE.

The great court on the north side is surrounded by a lofty arcade the design of which is similar to the arcades and superstructure within the church, except that the columns are alternated with piers irregularly, there being sometimes three, sometimes two columns between the piers; and in three cases, opposite doorways in rear wall, the piers come together. Instead of the two openings above the arcade [fig. 4] they are coupled together with a shaft in the centre [fig. 10]; but they open into the great portico the roof of which is constructed of beams exposed to view, and painted and decorated. Of the forty-seven free-standing pillars cited by Ibn-Jubair, eleven have been encased, some, as Mr. Porter states, within the last century. These are all covered with stucco, stamped with arabesque patterns.

Externally, the Mosque is of the simplest design: the walls are all built in ashlar masonry, with stone courses 2 feet 9 inches in height; the windows are all circular-headed, with from five to seven voussoirs, according to the size. The transept rises thirty feet above the walls of the two wings, and has a low-pitched gable at the north and south ends, with a single bold ogee moulded cornice. There is a vertical straight joint at each end of the south front, where the Mosque was built up against the earlier towers. In consequence of the heads of the windows being circular, a Christian origin has been ascribed to them. But it must be remembered, first, that Al Walid, to whom the entire building of the Mosque is ascribed (705–712), employed Christian workmen from Byzantium; and, secondly, at that period the pointed arch had not been generally introduced. The earliest distinctly pointed arch known in Mohammedan buildings is that found in the Nilometer at Cairo, dated, according to Mr. Lane, A.D. 861, sixteen years earlier than the Great Mosque of Touloun at Cairo, where the arches are horseshoe as well as pointed. There are two variations found, however, in early Syrian architecture: the arches are stilted sometimes and slightly horseshoe, or they are struck from two centres having a keystone in which the point is rounded off. This is found in the great arches of the transept; the springing is 26 inches above the impost, and the centres are 30 inches apart. Similar arches are found in the Church or Mosque of Rabbath-Ammon, in Moab, dating from about the beginning of the seventh century; and in the Kubbet Es-Sakra, or Dome of the Rock, at Jerusalem, A.D. 686. In the centre of the transept, and rising above the roof, are two or three courses of stone, which probably carried the original dome built by Al Walid. The existing drum and dome were built probably after the fire of 1400.

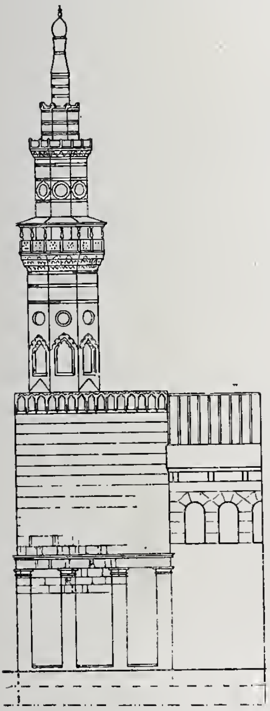

FIG. 11.—THE WESTERN MINARET.

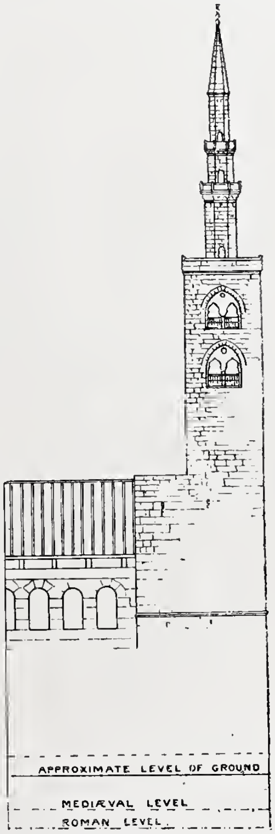

FIG. 12.—THE MINARET OF JESUS.

The minaret on the north side of the Mosque, known as the Mâdinet al 'Arûs (the Minaret of the Bride, fig. 10), is the most ancient, and is ascribed to Al Walid (705–12), though it has probably been restored since. It is square, with a gallery round the central minaret. The Mâdinet 'Isâ (the Minaret of Jesus, fig. 12), 250 feet high, stands at the south-eastern angle. This and the Mâdinet el Ghurbiyeh (the Western Minaret, fig. 11) are built on towers of more ancient date, which are said by Ya'kûbî (writing in 891) to have been "originally watch-towers in the Greek days, and belonged to the Church of St. John." The western tower, however, is much earlier than this, and is probably the earliest structure in Damascus. To this I shall refer again. The minaret which surmounts it is octagonal, and is set back on the north-west angle of the tower.

The principal entrances to the Mosque are the triple gateways with bronze doors, on the east and west sides, which lead into the great court. The east gate, known as the Bâb-el-

Jeirun, leads to a vestibule with two columns, and was preceded by a lofty arcade with six columns: these are shown in Porter's plan, but they fell down in 1858. The west gate, Bab-el-Berid, leads into a vestibule with four columns, and in both cases into the arcade of the great court. There is a north entrance of less importance by the side of the Minaret of the Bride [fig. 10], and an entrance known as the "Gate of the Addition" at the south-west end of the Mosque.

In front of the east and west gates there existed a double colonnade, the remains of which can still be traced, built in the shops by the side. The east colonnade was 312 feet long, the west 184 feet. At the west end of the latter there exist the remains of a magnificent portico of four columns, and two three-quarter responds and angle piers. The columns are four feet in diameter, and the width is about eighty-four feet. The two centre columns are wider apart than the others, and are spanned by an arch round which the entablature is carried, similar to the well-known example of the Palace of Diocletian at Spalato. Half of the pediment above the arch and the springing of the latter still exist.

At the east extremity of the eastern colonnade there existed, according to Arab authors, a similar portico. This was pulled down in 1223, and the materials used to pave the court of the Mosque. Mr. Porter found three of the lower portions of the columns; their diameter being 5 feet would give a length of 100 feet to this portico. To these features I shall return again.

Returning for a moment again to the Mosque, I have still to mention an important fragment of an ancient wall which is incorporated with and forms part of the south wall of the Mosque. In a line about eighteen feet east of the east wall of the transept is the axial line of one of those magnificent doorways such as are found in the Roman temples at Baalbec, Palmyra, and other places in Syria. This doorway [fig. 13] measures from 10 to 12 feet wide in the clear, and double that in height: it has richly carved architraves, frieze, and cornices carried on boldly projecting corbels on each side. It is on the lower fascia of this doorway that the well-known Greek inscription has been carved, and which exists to this day, notwithstanding the Mohammedan use of the building for twelve centuries, the translation of which is, "Thy kingdom, O Christ, is an everlasting kingdom, and Thy dominion endureth throughout all generations." * This doorway is, according to Mr. Porter, flanked by two other doorways, one on each side, with circular heads. Such a design would be so unnatural in a Roman temple that I am inclined to think those two side entrances must have been originally niches, which were cut through by the Christians when they turned the temple into a church, and, according to the Greek rite,

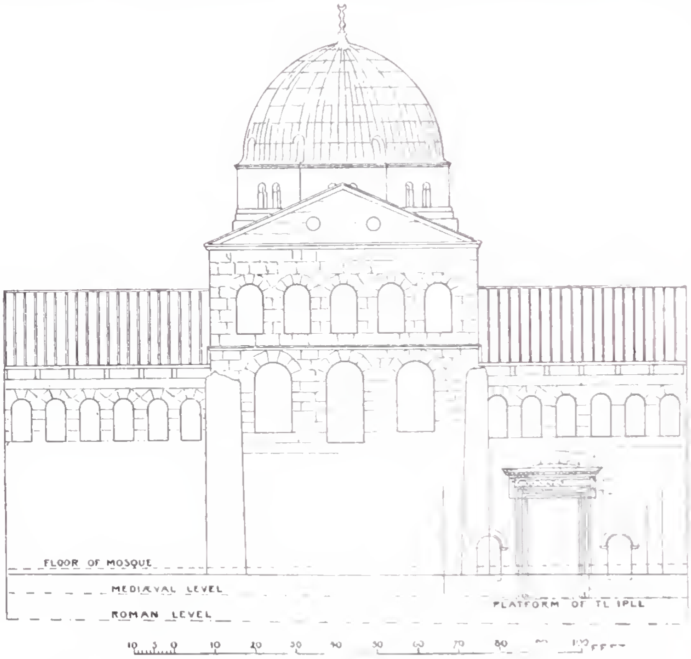

FIG. 13.—CENTRE OF SOUTH FRONT, SHOWING THE ORIGINAL ROMAN DOORWAY OF TEMPLE.

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* This is the Septuagint version of Psalm cxlv., verse 13.

required three doorways. There is a basilica of the second or third century at Chagga, with square-headed central doorway and circular-headed niches on either side, which occupy a similar position to those at Damascus.

So far I have dealt with the actual facts, with a description of the structure and its approaches as it exists, or existed prior to the great fire of 1893. Before entering into the speculative portion of my Paper it will be necessary to say a few words on the early history of Damascus, just so far as it related to the enclosure of the Mosque. My facts are chiefly taken from Murray, who probably derived a great portion of them from Porter's *Five Years in Damascus*; while Porter owed a good deal of his information to Ibn' Asâker, an Arab author. These have been supplemented by the admirable translation of other Arab authors made by Mr. Guy le Strange, and already referred to.

Damascus is one of the oldest cities in Syria; it was already a noted place in the time of Abraham, and it is often mentioned in Scripture. In B.C. 333 it fell into the hands of Alexander the Great, and afterwards it was divided between the Seleucidæ and the Ptolemies. About a century before the Christian era, in 114, Antiochus Cyzienus took the half of the kingdom of the Seleucidæ and fixed his residence at Damascus. In B.C. 84 Aretas, king of Arabia, took possession of the city; and in B.C. 64 it submitted to the Romans under Pompey, and the proconsul occasionally resided there. Aretas, the father-in-law of Herod Agrippa, seized Damascus about A.D. 37. During the reign of Trajan, A.D. 98–118, Damascus became a Roman provincial city; and Apollodorus of Damascus, the most celebrated architect of his time, who built the bridge across the Lower Danube, may possibly have carried out some of the work there. To the peaceful reign of Antoninus Pius who followed (138–61), and who was one of the greatest builders in Syria, we may ascribe the great arches at the east and west ends of the Mosque. To this monarch and to his successor, Marcus Aurelius Antoninus (161–80), we owe the principal temples and monuments at Baalbec, Gerasa, Palmyra, and other great Syrian cities erected under Roman rule. Damascus remained in the possession of the Romans till A.D. 260, when it was taken by Sapor I., the Sassanian king.

Some years after the accession of Constantine, and when Christianity became, in A.D. 323, the established religion, Damascus was constituted an episcopal centre, with fifteen dioceses. After this, for more than three centuries, the records are very scanty. The temple is said to have been converted into a church by Theodosius in 379, and, according to Mr. Porter, a stone was found near the Jeirûn gate stating, "This church of the blessed John the Baptist was restored by Arcadius, the son of Theodosius."

In 634 the town was taken by the Moslems, and the church divided equally between the Christians and the Moslems, the former occupying the west and the latter the east end. On the accession of Walid, the sixth Khalif of the Omeiyades, the whole edifice was appropriated by the Moslems, and, according to all the Arab authors, pulled down prior to the building of the existing Mosque.

These are the main historical facts connected with the history of the Mosque of Damascus. There are one or two other statements in the Arab authors translated by Mr. Guy le Strange, which give a clue as to the origin of certain names; and as Damascus, called in Arabic "Dimishk" or "Dimashk," has kept its name unchanged through all ages, so we may fairly assume that other denominations handed down through the Arabs have also some real foundation.

Mas'ûdi, in his work entitled *The Meadows of Gold*, written A.D. 943, says:—

> Jairûn (after whom the eastern gate is named) was the son of Sa'ad, son of Ad, and he came to Damascus and made it his capital. He transported thither a great number of columns of marble and alabaster, and constructed thereof a lordly edifice, which he called Iram d'hât al Amûd, or Iram of the

Columns. In our own days, in the year A.H. 332 (A.D. 954), this same edifice is to be seen in the market, at the gate of the Great Mosque called Bâb Jairûn.

Of course he is wrong in his period, as the building referred to is Roman; but then he was probably no archæologist. Yâkût, writing 1225, says: "Damascus was founded by Dimashih, son of Kâni, great-grandson of Shem, son of Nûh;" and again: "Others say that Damascus was built by Jairun ibn sa'ad ibn Ad, grandson of Shem."

According to Porter, who quotes from Ibn' Asâker and other authors, the palace called Jeirûn was built by Ad, son of Uz, son of Aram, son of Shem. Ad had two sons, Jeirûn and Berîd; for these he erected the two castles which still bear their names. As regards the former, Ibn-Kethir says: "The great Roman pediment that stood in front of Bab Jeirûn was removed A.H. 601 (A.D. 1223), and the stones employed in paving the court of the Great Mosque."

The descriptions given of the Mosque by various Mediæval Arab geographers from the ninth to the fourteenth century are so clear and precise that we have henceforth no difficulty in tracing its history up to the year 1400, when the second great fire took place; and the plan measured by Sir Charles Wilson, and published in Fergusson's *History of Architecture*, and drawings and photographs made before and after the third fire in 1893, enable us to follow the changes which have, since 1400, taken place in the structure. The conclusion at which Fergusson arrived, viz. that "the materials which had first been collected for the temple and afterwards used for the church were entirely rearranged by the Mohammedans in the form in which we now find them," seems on all evidence to be correct.

In the first place, the precious fragment which still exists of the Roman Temple, with its magnificent doorway and two side doorways or niches, and which, owing to its sound condition and great thickness, the Khalif al Walid utilised to form part of the south wall of the Mosque, cannot be made to centre with any portion of the Mosque. According to Professor Hayter Lewis, the axis of the great doorway lies about eighteen feet to the east of the east wall of the central transept, on a line with the centre of the first column of the eastern nave. Portions of the west wall of the temple may have been utilised for the east piers of the transept. Supposing the dimensions of the temple also to have been the same as those of the temple at Palmyra, the north wall of the Mosque might have been built on the foundations of the rear wall of the temple; beyond this, it is impossible to trace the walls of the old temple in the present structure. Yâkût, writing in 1225, states that Al Walid instructed his workmen to search for the ancient foundations of the walls of the original building, showing that, if possible, he was willing to utilise these; this probably referred also to the enclosure of the court, the portico round which seems to be on the line of the ancient temenos.

In the second place, the Arab authors agree in the statement that, prior to the building of the Mosque, Walid destroyed the church. Ya'kubi, writing in 891, says: "The Christians sought to turn him from it" (viz. the destruction), but "he went up into the church, and there was a yellow dome there," and this he destroyed with his own hand, and the people pulled down other portions as he set the example.

Mas'udi (A.D. 953) says: "In the year A.H. 87 (A.D. 708) the Khalif al Walid began the construction of the Great Mosque of Damascus. He also gave orders to set an inscription in gold on lapis lazuli in the court of the Mosque, and it ran as follows: *Allah is our Lord, and we worship none but Allah. The servant of Allah, Al Walid, the commander of the faithful, has ordered the building of this Mosque and the destruction of the church which was here in former days. Set up in Dhu-l-Hijjah of the year* 87. These words, written in gold, may be seen in the Mosque of Damascus in these our own days * in the year A.H. 332" (A.D. 953).

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* No trace of this inscription is to be found now.

Istakhrî, whose work was re-edited by Ibn-Haukal in 978, says, "When it came to the days of Khalif al Walid he built the Mosque." The same phrase is repeated in Idrîsî's writing (1154).

The Spanish Arab, Ibn-Jubair, who visited Damascus in 1184, and whose description of the Mosque, as translated by Mr. Guy le Strange, is one of the most brilliant architectural descriptions ever written by a layman, states: "He," Al Walid, "would have given them another church in exchange; but the Christians would not agree, and they made objections to the act of the Khalif, and forced him to take their church from them by force, and he himself began the work of demolishing the building," and "he began to pull down the walls with his own hands. Then the Muslims hastened to his aid, and very soon the whole was demolished."

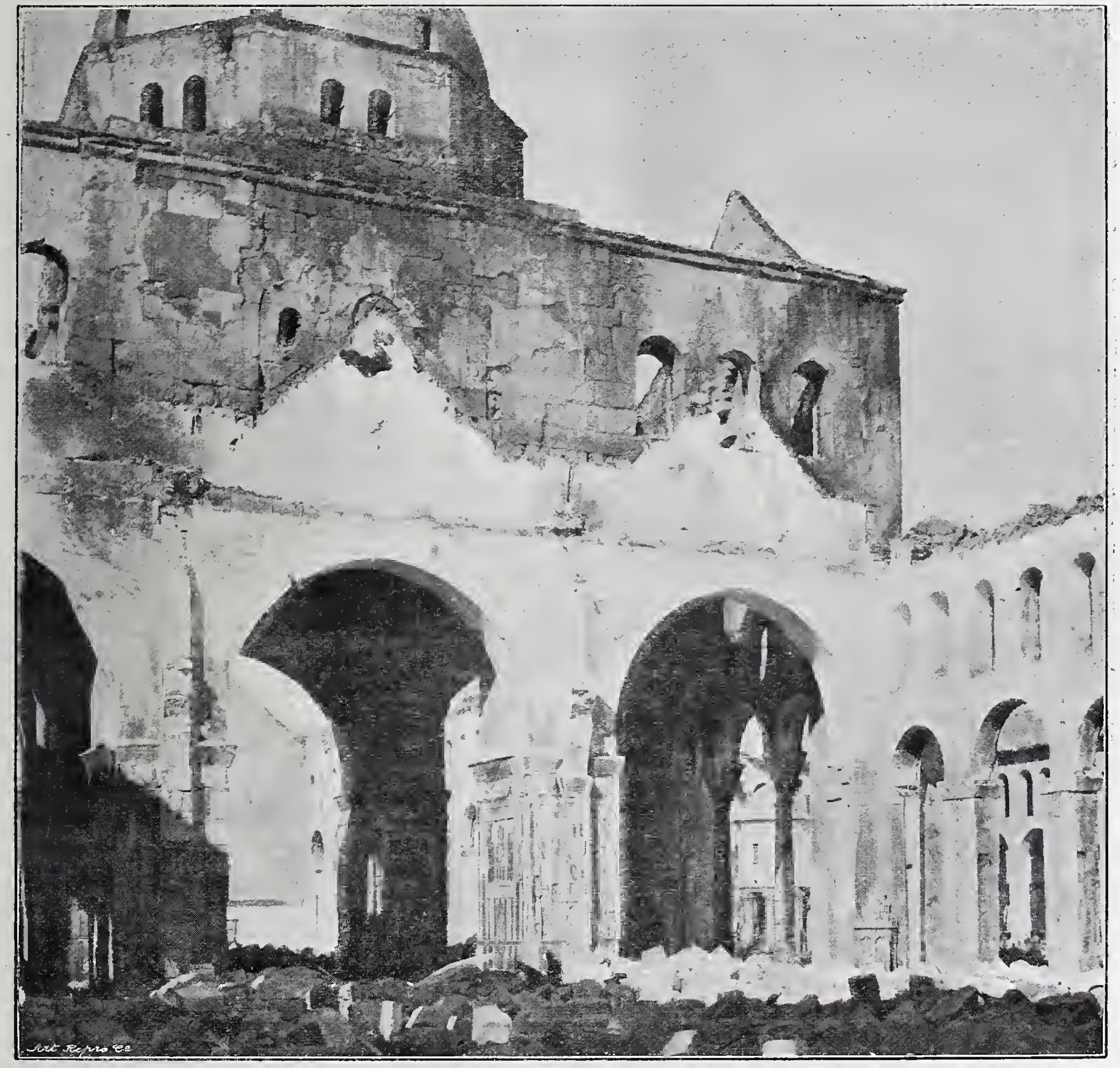

FIG. 14.—EAST WALL OF TRANSEPT AFTER THE FIRE OF OCTOBER 1893.

Yâkût, writing in 1225, says, "Then cried out Al Walid unto them, 'I am he who will be the first to demolish it,' and standing up he began to demolish the yellow cupola which was above the place where he sat, and the Muslims around him did the like."

Kemal ed Dîn, A.D. 1470, writes: "The Khalif al Walid levelled the buildings of the Christians until the whole was one flat surface, and then built the Mosque."

Lastly, we have the evidence of the building itself, of which there exist still the north and south walls and the east and west walls of the transept above the roof. These are all clearly the work of one period, and agree in their construction with the description given by Mukaddasi in 985.

The great fires which have taken place since the building of the Mosque are those of 1069, 1400, and 1893. The photographs which have been taken since the last fire suggest the extent to which the building was damaged by the other two, and the description given by Mukaddasi in 985, and by Ibn-Jubair in 1184, enable us, when comparing them with the actual building, to judge of the alterations which have taken place in the main structure and the great north court since their first construction. Mukaddasi tells us :—

> Its outer walls are built of squared stones, accurately set and of large size, and crowning them are splendid battlements. The columns supporting the roof of the Mosque consist of black polished pillars in a triple row,* and set widely apart. In the centre of the building over the space fronting the mihrâb [towards Mecca] is a great dome. Round the court are lofty colonnades [this should be arcades], above which are arched windows, and the whole area is paved with white marble. The [inner] walls of the Mosque, for twice the height of a man, are faced with variegated marbles; and above this, even to the very ceiling, are mosaics of various colours and in gold, showing figures of trees and towns and beautiful inscriptions, all most exquisitely and finely worked. The capitals of the columns are covered with gold, and the vaulting above the arcades is everywhere ornamented in mosaic. [This probably refers to the soffit of the arcades, the pillars could not have carried a vault, and he has already mentioned the ceiling.] The columns round the court are all of white marble, and the vaulting of the arcades [meaning the soffits of the arches] and the arched windows above are adorned with mosaic, with arabesque designs. The roofs are everywhere overlaid with plates of lead, and the battlements of both sides are faced with the mosaic work. . . . On the summit of the dome is an orange, and above it a pomegranate, both in gold; . . . but the most wonderful of the sights here worthy of remark is verily the setting of the various coloured marbles, and how the veining in each follows from that of its neighbour.

Ibn-Jubair, writing in 1184, gives a general description of the history of the Mosque as built by Al Walid, but curiously enough does not refer to the fire of 1069. He speaks in the past tense of the decorations; "all the walls," he says, "were overlaid with the mosaic work called Al Fusaifusâ." Some of this mosaic, which accords with the description given by Mukaddasi, still existed before the fire of 1893 in the north transept, and some more may have resisted the fire of 1069, so that he had some authority for his statement. "The four great piers under the dome are," he says, "made of the most exquisite marble set in with coloured stones in mosaic." But he does not refer to the marble lining of the walls up to twice the height of a man, as described by Mukaddasi, or to the actual panelling which still exists, twenty feet high. It is possible that this latter forms part of the restoration of the fifteenth century, with which its style would accord better. He enumerates in detail the measurements of the Mosque, and the number of its gates, windows, and columns, all of which are in close accordance with the actual buildings. He fails, however, to distinguish between columns, pillars, pilasters, and piers, so that it is not always easy to follow him, especially as it is said that some of the piers of the north aisle wall were originally columns which were encased when doors were provided to close in the Mosque on this side. His description of the court accords exactly with the present building, and the number of columns he quotes, "forty-seven, of which fourteen are pillars of gypsum," is the same that we find now, except that eleven of the columns have since been encased, some as late as the last century (Porter).

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* This suggests pillars to carry the north wall of the Mosque.

The most interesting portion of his description is that which refers to the great dome over the crossing, and to internal domes, probably of a decorative nature only, over the north and south transepts. Mukaddasi speaks of one dome only in the centre: this may have been either of stone or timber; in either case we may assume that it succumbed to the fire of 1069, because Ibn-Jubair describes domes of a different character. The latter also dilates on the immense height of the great dome which " broods over the void; and the people have likened it to a flying eagle, the dome itself being the head, the aisle [meaning the north and south transepts] below being the breast, the half of the wall of the right aisle and the half to the left being the two wings of the eagle." This refers to the transept roof, which runs through from north to south with a low pitch, and is terminated by a pediment at each end.*

The reference to the three domes is thus described by Ibn-Jubair, A.D. 1194:—

> A central nave is below it [viz. the central dome, the nave being what we should describe as the transept], going from the mihrâb [the Mecca niche] to the court; and over this nave [as seen from the interior] are three domes, namely, the dome which is close to the Mosque wall towards the court [north transept], the dome which is over and adjacent to the mihrâb [south transept], and the dome which is below [forming the inner or lower cupola of] the Kubbat ar Rasâs [the Dome of Lead], rising between the other two. [Later on he describes his visit to the interior of these two domes: he] went up by a ladder to the western colonnade that goes round the court, and walked on the flat roof of the Mosque. [This shows us that in the restoration after the fire of 1069, the roofs were still flat roofs.†] The roof [he goes on to say] is covered with large sheets of lead, the length of each sheet being four spans and the width three spans [span = nine inches]. After passing on the flat roof we came to the dome, and mounted into it by a ladder set there; and doing so it almost happened that we had been seized with dizziness. We went into the round gangway [this was round the base of the lead dome], which is of lead, and its width is but of six spans, so that we could not stand there, fearing to fall over. Then we hastened on to the entrance into the interior of the dome, passing through one of the grated windows which open in the leadwork, and before us was a wondrous sight. We passed over the planking of great wood beams which go all round the inner and smaller dome which is inside the outer leaden dome as aforesaid, and has one or two arched windows through which you look down into the Mosque below. From here the men who are in the Mosque look as if they were small children. The dome is round like a sphere, and its structure is made of planks strengthened with stout ribs of wood, bound with bands of iron. The ribs curve over the dome and meet at the summit in a round circle of wood. The inner dome, which is that seen from the interior of the Mosque, is inlaid with wooden panels. They are all gilt in the most beautiful manner, and ornamented with colour and carving. The great leaden dome covers this inner dome that has just been described. It also is strengthened by wooden ribs bound with iron bands. The number of these ribs is forty-eight, and between each rib is a space of four spans; the ribs converge above, and unite in a centre piece of wood. The great double dome rests on a circular base built of mighty blocks, above which rise short and thick pilasters, built up of large stones of a very hard kind, and between every two pilasters is pierced a window. Thus the windows extend all round the circle under the dome. Of the wonders of the place it is that we saw no spiders ‡ in the framework of the domes, and they say there are none here at all.

The graphic description thus given of the inner and outer domes, and the fact that Ibn-Jubair dwells on the great height of the central dome, rising high above the roof, and known as the Kubbat al Nasr, the Dome of the Eagle, which is not referred to by Mukaddasi, would suggest that the first dome built by Al Walid was a single dome and of less height. It probably, in fact, occupied about the same position as the inner dome described by Ibn-Jubair.

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[*] Mr. Guy le Strange states that the great dome is known to-day as the Kubbat al Nasr, the Dome of the Eagle.

[†] Before the fire of 1893 there were three high-pitched open timber roofs covered with lead, and the sun striking on this for some centuries must have so dried the wood that it is easy to understand how the workman's ignited tobacco, blowing under the lead, set the whole roof in a blaze at once.

[‡] Due possibly to the fact that cedar from Lebanon was the wood employed.

In the restoration after the fire of 1069 the upper dome was raised on a drum, as described by him, with short and thick pilasters resting on a circular base of mighty blocks. This base, by the way (except that it is octagonal), still exists; that is to say, under the existing octagonal drum (which, with the dome over, was built, as far as we can judge by the style of its windows, in the fifteenth century, after the fire of 1400) there still remain three courses of stone of larger size, similar to the stonework of Al Walid's Mosque, and which may have formed the base of his dome.

It now remains to be considered to what extent the three fires damaged the original structure of Al Walid, and the photographs taken since the fire of 1893 enable us to form some estimate of the probable damage done in each case. The whole of the two rows of arcades, with windows pierced in the wall above, which divided the three aisles, have been thrown down in hopeless confusion; but, owing to the great solidity of the outer walls, and the fact that all the inner surface was protected with marble panelling below, and mosaic or plaster above, no harm would appear to have been done to the stonework. The east and west walls of the Great Transept were also coated with plaster, and there are traces on the east wall of painted decoration on the outside [fig. 14]. The position of the painted decoration, coming as it does between the gabled roofs just burnt down, so that it could not have been seen, suggests that these walls were plastered after the fire of 1069 in order to hide the damaged stonework; and we know that the whole of the internal walls of Al Walid's Mosque were covered with marble linings and mosaic, so that we may fairly assume the whole of the main construction to have withstood the fire of 1069 as well as that of 1400. As regards the arcades which divide the aisles, with two or three exceptions all the capitals are of that early Græco-Roman type which is found in the great archway, and which was only superseded by the Roman type at such places as Palmyra, Baalbec and Gerasa, and other towns, where the importance of the works caused stone-masons from Rome to be sent over. The dosserets are all absolutely the same form as those existing in the great court, which have never suffered since their first erection. The only exceptions are the capitals above the tomb of St. John, which is placed between the third and fourth columns of the south side of the nave, and east of the transept; and as there has probably always been a rich wooden structure of some sort over this tomb, the burning of this probably destroyed the original capitals here. The amount of timber also in the roof burnt in 1893 must have been two or three times that of the original flat roof; and as of late the floor was always covered with carpets placed one over the other, possibly to hide a much damaged pavement, this must have rendered the last conflagration more serious, in that nearly the whole of the arcades separating the aisles were thrown down. It is probable, therefore, that the arcades now destroyed belong to the original construction of the Mosque. It is true that one of the Moslem authors records that a certain writer of past times states that the Mosque was originally built with two rows of marble columns, one above the other, the lower row being large columns, and those above smaller; but the columns would be too far apart to carry architraves; and besides, the arcades or columns and their openings above are absolutely similar to those of the great court built by Al Walid.

⁂ The remainder of the Paper, with further illustrations, and the discussion thereon, will appear in the next number.

9, Conduit Street, London, W., *19th November* 1896.

CHRONICLE.

Mr. Phenè Spiers's Paper.

Limitations of space compel postponement of publication of the remainder of Mr. Spiers's Paper on the Great Mosque of Damascus, with the interesting discussion which ensued, until the next issue of the Journal. The Paper, with the author's lucid explanations of the illustrations, took over an hour and a half to deliver. Among the audience were several who had visited Damascus, and were familiar with the Mosque before the fire of 1893. The visitors included Miss Rogers, the sister of a former Consul in Damascus, and the author of many works on Palestine; Mr. Holman Hunt, who proposed a Vote of Thanks to the author of the Paper; Colonel Watson, who, in seconding the Vote, displayed an intimate acquaintance with the Mosque, and contributed very ably to the discussion; and Mr. Henry C. Kay, who also took part in the discussion. Other speakers were Colonel Lenox Prendergast [*H.A.*] and the President. The Paper was illustrated by a large number of drawings and photographs. The former included one by Mr. Carl Haag made in 1859, and three or four water-colour drawings made by Mr. Spiers a few years later; also many drawings of the inlaid marble slabs with which the lower part of the walls and piers were covered. The photographs included two large panoramas of the Mosque taken from the Minaret of the Bride, and views of the exterior and interior of the Mosque and of the great court; details of the Syrio-Greek tower, of the Great Gateway, of the Roman doorway on which the Greek inscription is carved, and of the bronze doors now destroyed. The most interesting photographs perhaps were those taken after the great fire, lent by Dr. Wright, for whom they were made, and which show the completely ruined condition of the building. Besides these were plans, elevations, and sections of the whole structure worked out from photographs and drawings, and based on the measurements made by Sir Charles Wilson.

Proposed Government Buildings, Jamaica.

Conspicuous among the notices in the *Supplement* to the Journal of the 15th ult. was a paragraph with the above heading, stating that the President had been requested by the Secretary of State for the Colonies to nominate three or four architects of good reputation, who would undertake to prepare designs, working drawings, specifications, and estimates for public buildings proposed to be erected by the Government at Kingston, Jamaica. The paragraph concluded with an invitation to architects desirous of being nominated to send in their names, with particulars of their work and experience, to the Secretary of the Institute before the 24th ult. In response, thirteen applications were received, twelve of them being from members of the Institute. The qualifications of the various applicants were duly considered at the Council meeting of the 2nd inst., and a selection made of the following gentlemen, whose names have been forwarded to the Colonial Office: Mr. Frank T. Baggallay [*F.*], Messrs. Gibson [*A.*] & Russell [*A.*], Mr. W. H. Harrison [*F.*], and Mr. Beresford Pite [*F.*]. The architect ultimately selected from among those nominated will be required to visit Kingston, and attend the committee there with reference to the general plans and architectural character of the designs. He will subsequently be required to furnish to the Government full and detailed working drawings and specifications for the construction of the buildings. The remuneration will be at the rate of 2½ per cent. on the estimated cost, which is not to exceed £100,000.

The Preservation of London Monuments.

Some good seems likely to accrue from the recent demolition by the London School Board of the hunting-box of James I. at Bromley-by-Bow. This interesting relic, with its elaborately carved oak staircase and chimney-pieces, its sumptuous plaster ceilings and cornices, was ruthlessly swept away to make room for a Board school, and its costly fittings disposed of as old materials. With a view to prevent the possible repetition of such an act of vandalism, the London County Council has appointed a committee to consider what course of action the Council should adopt in the case of the proposed destruction of any building of historic or architectural interest in the county of London. As a first step the committee have invited the co-operation of several Metropolitan artistic and archæological Societies, including among others the Institute, the Architectural Association, the Society of Antiquaries, and the Society for the Protection of Ancient Buildings, in preparing a list of buildings in London it is considered desirable to preserve. A Conference of the various Societies with the committee of the London Council will take place on the 2nd prox., and it is hoped that a common course of action will be then agreed upon. Advantage may be taken of the present opportunity to congratulate the London Council upon the judicious manner in which it is dealing with York Water Gate in the Embankment Gardens. The Gate is being put into a thorough state of repair under the personal supervision of the architect to the Council, and there is no intention of restoring or converting it into a triumphal arch, as was at one time contemplated.

The Dublin Architectural Association.

Ireland has long felt the need of a Society similar to those existing in London and other centres of the United Kingdom, which would take in hand the education and improvement of its young architectural students. It is satisfactory to learn that such an Association has at length been started in Dublin, mainly through the efforts of members of the Royal Institute of the Architects of Ireland. The objects are stated to be (1) to afford to pupils and younger members advantages of education beyond the daily routine of office work, on similar lines to the Architectural Association (London), viz., by classes of instruction, access to standard works of architecture, visiting buildings, old and new, and general social intercourse, and discussion; (2) to ensure a more general interest in architecture by means of occasional popular lectures and exhibitions. It is also hoped to institute a series of examinations, and to offer prizes for work done by the members. Membership is not restricted to those following architecture as a profession only; students in engineering or science and arts cognate to architecture are also eligible. There is no doubt that, with the cooperation and assistance of a few leading men, the new venture has every prospect of success. Mr. Thomas Drew [*F.*], R.H.A., President of the Royal Institute of Ireland, a Society allied to the parent Body in London, has entered heartily into the scheme, and, among other offers of assistance, has promised to form a Reference Library for the use of members, and to place a room at the disposal of the Association. Mr. William R. Gleave [*A.*] acted as Hon. Secretary of the Committee who made the preliminary arrangements.

The late Stephen Salter [*F.*].

Stephen Salter, who died on the 7th ult., at the age of seventy-one years, was the elder son of Mr. Stephen Salter, of Hammersmith. He was articled to the late Thomas Henry Wyatt, with whom he remained for many years as assistant. He commenced independent practice about the year 1866, subsequently establishing his office in Woburn Place, Russell Square. He had a large hospital connection, and carried out important works for St. George's Hospital, Westminster Hospital, King's College Hospital, and the Royal Colleges of Physicians and Surgeons. For the latter Body he built the Examination Hall on the Victoria Embankment. Among his other works were Lady Augusta Stanley's Nursing Home, The Mary Wardell Fever Hospital, East Moulsey Church; Christchurch, Hendon; St. George's Shelter for Girls, Berkeley Square; alterations to the Bristol Royal Infirmary, Malvern College, &c. For the last nine years Mr. H. Percy Adams had been associated with him in partnership. Mr. Salter was elected an Associate of the Institute in 1853, and a Fellow in 1866. He served for some years on the Practice Standing Committee.

The late William H. White, Secretary.

Sympathetic expressions of condolence with the Institute on the loss of its Secretary, the late Mr. White, have been received from the Architectural Association (London) and from various non-Metropolitan Societies allied to the Institute, in addition to those referred to at the Meeting of the 2nd inst. It should be stated that in the list of mourners present at Nunhead Cemetery given on page 17, omission was inadvertently made of the President of the Manchester Society of Architects, Mr. John Ely [*F.*], who attended the funeral as the representative of his Society. Members and other friends of the late Secretary will, it is hoped, endeavour to be present at the Special General Meeting of the 30th inst. The Meeting is convened for the purpose of inspecting the interesting collection of books, drawings, and sketches presented to the Library by Colonel White in fulfilment of his brother's wishes. The drawings, with others to be lent for the occasion, were the work of the deceased before he commenced practice. Many are of exceeding merit, and exhibit a skill and delicacy of treatment not often approached even in work of the kind in the present day. A selection of plans and working drawings representative of Mr. White's architectural works will also be exhibited, and a brief description given by Mr. Arthur S. Flower [*A.*].

New Hon. Members of the American Institute.

Two Past Presidents R.I.B.A. have been recently singled out for honours by the American Institute of Architects. At the Thirtieth Annual Convention of that Institute, held at Nashville, Tennessee, on the 20th, 21st, and 22nd ult., among the three Hon. Members elected were Mr. Penrose, F.R.S., and Mr. Alfred Waterhouse, R.A., LL.D.

Books received for Review.

A Handbook of Art Smithing, for the Use of Practical Smiths, Designers of Ironwork, Technical and Art Schools, Architects, &c. By Franz Sales Meyer. Translated from the second and enlarged German edition. With Introduction by J. Starkie Gardner. 8o. Lond. 1896. [B. T. Batsford, 94, High Holborn.]

Sanitary House Drainage: its Principles and Practice. A Handbook for the Use of Architects, Engineers, and Builders. By T. E. Coleman. 8o. Lond. 1896. [E. & F. N. Spon, 125, Strand.]

Constructional Iron and Steel Work as applied to Public, Private, and Domestic Buildings. A Practical Treatise for Architects, Students, and Builders. By Francis

Campin, C.E. Small 8o. 1896. [Messrs. Crosby Lockwood & Son, 7, Stationers' Hall Court, Ludgate Hill.]

The Buddhist Praying-wheel. A Collection of Material bearing upon the Symbolism of the Wheel and Circular Movements in Custom and Religious Ritual. By Wm. Simpson, R.I., F.R.G.S., Hon. Assoc. R.I.B.A. 8o. Lond. 1896. [Messrs. Macmillan & Co., 29–30, Bedford Street, Covent Garden.]

Additions to the Library.

Mr. Archibald M. Dunn has forwarded his *Notes and Sketches of an Architect*, a quarto volume consisting of a collection of facsimile reproductions by photo-lithography of sketches made some years ago both at home and abroad by Mr. Dunn. The drawings were all made on the spot, and mainly with the object of study: their publication, which occurred in 1886, was an afterthought.

Owing to the courtesy of Mr. Samuel Knight, a work of considerable bibliographical interest has come into the possession of the Library. This is the first edition, and the author's copy, of Britton's *Dictionary of the Architecture and Archæology of the Middle Ages*, interleaved and containing voluminous notes and additions in the author's handwriting, with a view to their being incorporated in a new edition. There are also references to contemporary criticisms, whose suggestions Britton intended to adopt; and to the inside cover of the first volume is attached a rather severe review which appeared in the *Spectator* of the 17th November 1838, with the reviewer's name inscribed on the margin. The work derives additional interest from the fact of its possessing early proofs of Le Vieux's fine plates. Mr. Knight purchased it from Salkeld, of Orange Street, by whom it was bought at the sale of Britton's effects after his death.

Bautechnische Studien anlässlich des Laibacher Erdbebens, a lecture delivered by Adalb. G. Stradal before the members of the Engineering and Architectural Society of Austria on the 8th of last February, has been received from the author.

Mr. George H. Bibby has presented copies to both the Loan and Reference Collections of his *Planning of Lunatic Asylums* [London: B. T. Batsford].

The *Architekten-Verein* of Berlin has forwarded its *Entwürfe* for 1896, containing ten plates of designs by members of the Society, under whose direction the publication is issued. The designs include a town hall, country house, mausoleum, with plans, elevations, &c., and three designs of a diploma-form for the Society. The same Society has also presented the text and plates of the *Zeitschrift für Bauwesen* (vol. xlvi., parts x. to xii.), published under the direction of the Ministry of Public Works. Plans, &c., and a description of the central prison for the province of Posen, the construction of the Kaiser-Wilhelm canal, and various buildings are among the contents.

The thirty-seventh part of *Afbeeldingen van oude Bestaaende Gebouwen*, a collection of plates of ancient buildings, with descriptive notes, published by the Maatschappij tot Bevordering der Bouwkunst, Amsterdam, has been received from the Society. The drawings illustrate doorways at Middleburg, the Hague, Utrecht, &c., and details of the interior of St. Jacob's Church, the Hague [The Hague: Mouton & Co.].

Deutsche Schmiedearbeiten aus fünf Jahrhunderten and *Geschmiedete Gitter des XVI.–XVIII. Jahrhunderts aus Süddeutschland*, bound together in one volume, have recently been added to the Reference Library. The examples, which are admirably reproduced in photogravure, have in both cases been selected and edited by Adalbert Roeper; while Hans Bosch, Director of the German Museum at Nuremberg, contributes a preface to each part. [Munich: Jos. Albert.]

A finely illustrated monograph of the interesting Renaissance building, *Il Palazzo dei Rettori* at Belluno, by M. Guggenheim, has also been added to the Reference Collection.

Amongst American periodicals recently received, the *Engineering Magazine* for October contains an illustrated article entitled "An Arraignment of American City Architecture," by E. S. Gardner; and the November issue of the same periodical, a Paper by Mr. J. Beverley Robinson on "The Cantilever as applied to Building Construction." The principal contributions to the last three parts of the *Brochure Series of Architectural Illustration* (vol. ii., Nos. 2–4) are respectively, "The Small Churches of Normandy," "The North Porch of the Erechtheion," and "English Parish Churches"; and the illustrations from photographs accompanying these articles are all of unusual excellence. The *Architectural Record* includes in the contents of its last quarterly part (vol. vi. p. 1) an article on "Optical Refinements in Mediæval Architecture," by Wm. H. Goodyear. Mr. Barr Ferree writes on "French Cathedrals," and Mr. Alphonse de Calonne contributes an article on "Modern Hospitals in Europe," with plans, &c.

The Journal of Indian Art and Industry (vol. vii., No. 56) has been received from the publisher (Peckham: W. Griggs). This number contains in facsimile a richly decorated letter from King James I. of England to the Shah Abbas of Persia, with an explanatory note by F. C. Danvers. A second contribution, "The Tradition of Raphael in Persia," by C. Purdon Clarke, briefly explains that the term pre-Raphaelite may with almost equal appropriateness be applied to Persian as to European art; a change from conventionalism to naturalism, due to European influence, being noticeable in Persia during the same period. Mr. Clarke's Paper is accompanied by four coloured illustrations of portraits.

The Forty-third *Report* of the Department of Science and Art of the Committee of Council on

Education, with Appendices, and the *Supplement* to the same, have been added to the Library.

Parts iv.–vi. of *Der Formen Schatz* have been received from the Publisher through Messrs. Williams & Norgate [Munich: Georg Hirth]. This excellent publication maintains its standard of illustration, many of the plates (including some examples of ironwork) in these numbers having a special interest for architects.

REVIEWS. XLVIII.

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DEIR EL BAHARI.

The Temple of Deir el Bahari. By Edouard Naville, D.C.L., Ph.D., Litt.D., Correspondent of the Institute of France, Fellow of King's College, London. Part I. Plates I.–XXIV. The North-Western End of the Upper Platform. Fo. Lond. 1896. [*The Egypt Exploration Fund,* 37, *Great Russell Street, W.C., and* 15, *Blagden Street, Boston, Mass., U.S.A.*]

This first part of a really splendid monograph is presented to the Institute by the Egypt Exploration Fund, the Committee of which has done doubly well in securing the services of so pre-eminent an Egyptologist as M. Edouard Naville, and in placing the results of his careful exploration before the world in so complete and worthy a form. It is not many weeks since the explorer himself laid before the Institute some account of the temple in question, its peculiar position, built on a series of three steps or platforms artificially constructed against the solid rock, the sanctuary being cut in the rock itself. Those who desire to understand the general position and character of this very remarkable monument will do well to turn to the Journal of 17th September last, Vol. III. p. 544. M. Naville in that Paper points out that, besides being different from all other temples, it is the best specimen of "elegant" Egyptian architecture, as distinct from the "colossal," which appealed to a less cultivated admiration. In the monograph under notice are illustrated the details of the decoration of the building—details which once glowed with colour, and which are yet throughout their execution brimful of delicate and subtle art. Excellent as are the drawings by the two Messrs. Carter, neither they nor any drawings can fully express the delicate "modelling" in the Egyptian art representation of the best periods, nor the careful and intelligent execution of the colouring, even in the repeated hieroglyphic symbols. It is to be hoped that the Committee may be able to have a few portions of the details photographed to a large scale and in a carefully adjusted light, with the express object of showing the finish of the surface modelling. The lithographic plates are evidently most carefully and faithfully drawn, and justly render the spirited drawing of the originals. The coloured plates also exhibit care and the honest attempt to render the colouring as it now is without exaggeration. Unless, however, my own notes and memory are much at fault, the "toning down" of the colours has been in some parts carried too far. In the colouring of this period the blues have either remained very frankly of a cobalt blue tone, or they have occasionally changed in part to a "coppery" green, or they have perished and exposed the white ground. In these coloured plates the blues appear "sicklied o'er" with a dull green-drab tone, which I have never noticed, unless where a modern varnish has imprudently been used for their preservation. However, the limitations of the method of reproduction preclude absolute accuracy of colour; and it is clear that no pains have been spared to render this work a real and trustworthy record. Such a publication can hardly fail to draw to the Egypt Exploration Fund a large accession of members; and that this may be the case we must all wish, for M. Naville urgently represents the need for some protective steps being taken to guard the works themselves from destruction by exposure.

J. D. Crace.

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PRACTICAL SANITATION.

Domestic Sanitary Drainage and Plumbing. By D. R. Maguire. Second Edition. 8o. Lond. 1896. [*Kegan Paul, Trench, Trübner & Co.,* 20–22, *Charing Cross Road.*]

This is a work professing to be "Lectures on Practical Sanitation delivered at the Central Technical Institution, South Kensington"; but as it consists of a series of very long chapters, the lectures have presumably been amalgamated. This is a pity, for short chapters, such as the lectures probably were, are much more satisfactory, with each embracing a distinct portion of the matter to which a long series of pages is now devoted. The first chapter is interesting, as it gives an account of the plumber's craft in bygone times; and the second chapter also, as it deals with the educational methods at the present time, and gives the author's own ideas on the subject. Of course, he adopts a high standard of morality for the world of plumbers, and it is to be hoped a fair proportion will attain it. The work is distinctly useful in its way, though perhaps rather costly for the pocket of the plumber's apprentice. The illustrations are of the usual catalogue type, and would have been more useful if the maker's name had been put to each, together with a direct statement of the pros and cons as to the use of each article. A complete series of illustrations is given of the parts of a "Kelvin" tap, and high praise awarded the invention—a matter on which some may differ from the author, as in many instances in my practice I have found the tap leak badly after being a short time in use. Under the heading of soil pipes, nothing appears to be said as to the usual weights for each diameter of lead. Indeed, the by-laws of the London County Council at present in force in the Metropolis are conspicuously absent, no single reference to them being made that I can find. Another curious item is the information given on page 135, to the effect that the portion of the house drain from the sewer up to the outermost wall of the premises "is generally provided, laid by, and under the direct control of, the sanitary authority"—the actual fact being, in London at any rate, that the owner pays the authorities for laying the drain and making the connection to the sewer, as they possess facilities for opening the roads, &c., which the owner does not; but the owner can decide the size, inclination, and direction of this portion of the drain, within the limits of the regulations in force, as much as any other portion of the house drainage. As to whether plumbers should be employed to lay drains is a moot point. Taken generally, the book is a useful one, and should prove of great value to the working plumber who will carefully study the various points discussed, and bring his practical knowledge to bear on the problems suggested. MAX. CLARKE.

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SUGGESTIONS IN DESIGN.

Suggestions in Architectural Design, prefaced with Thoughts on Architectural Progress. By John Cotton, F.R.I.B.A., Pugin Travelling Student and Medallist 1869 Large 4o. Lond. 1896. [*B. T. Batsford, 94, High Holborn.*]

Goethe's epigram, so true of all other works and words of men, is emphatically applicable to their architectural designs: "There be many echoes, but few voices." Of the numerous books on architecture published during our Victorian age, how few are even suggestive, much less directive! May it not be truly said of most of these books that they are not even entitled to rank as echoes, but only as echoes of echoes? Mr. Cotton's book, whatever else it may or may not be, is neither an echo, nor the echo of an echo, but a *voice*. No one opening the volume, and looking first at the designs, replete as they are with new ideas, would know, without some interpretation, quite what to think of them. The able draughtsmanship, and the familiarity with constructive principles and with architectural styles and details exhibited on every page, should at first sight warn the censoriously disposed critic that no 'prentice hand nor half-taught mind had left its impress there. A strange impress truly! Strange as an unknown tongue; and yet not wholly strange, but, as it were, a polyglot language, abounding in many familiar words and phrases—words from the Orient and from the still farther East, expressions Romanesque and Byzantine, dovetailed in with the fervid eloquence of the Moor, the homelier romance of Mediæval France and Britain, and the polished courtliness of the Renaissance.

In these remarkably unique designs Mr. Cotton has indeed given us a mixture of condiments likely to disagree with many an orthodox digestion, if dispatched too suddenly, without that preparation which the careful perusal of the author's explanatory preface gives, and without that rumination which naturally follows this perusal. In this well-argued and gracefully written preface Mr. Cotton interprets his "Suggestions in Design," giving a clear exposition of the principles upon which they are founded; and before proceeding to gauge the merits and demerits of the designs, the critic, in justice to both himself and the author, should carefully consider those principles, and either rebut them, or accord them their due weight in the scales of judgment.

Mr. Cotton contends that as new music can be composed, not by the impossible creation of new notes, but by new combinations of old notes; so new and original design in architecture can be made, not by inventing new shapes, but by forming new combinations of known shapes. He points out that the range of possible combination has been limited hitherto by allowing Archæology to usurp the place of Architecture, and that so long as what is mistakenly called "purity" of style and "period" continue to be insisted on, the architect is unduly fettered, and prevented from originating any new features which might develop into a new style. Certainly the insistence on archæological consistency of modern design has relaxed very considerably during the last decade; and many an architect to-day would say Amen to Mr. Cotton's contention who would have scouted it ten or twenty years ago. But it does not follow that every one who accepts the principle of free combination on which Mr. Cotton's designs are professedly based will necessarily fall in love with these designs, for they are greatly varied; and while the most fastidious taste would be likely to find amid such a hoard of new ideas some to be highly regarded, it would not be surprising if many others were set aside as unacceptable. At the same time these designs are so different from what we have been accustomed to criticise that it is highly probable no two critics would prefer the same designs, and that one critic would like what another would not like. We need always to distinguish between a principle and an attempt to exemplify it; for while the principle itself may be irrefutable, its example may be a failure, by reason of conditions for which the principle is not answerable. Mr. Cotton seems to realise this, and he modestly admits his consciousness of defect and demerit in his attempts to illustrate the principle of free combinations for which in his preface he contends.

The question, after all, is, Can various styles, periods, and fashions of architecture be so interwoven in modern designs as to develop a new and delightful series of architectural impressions? Or is there such vital incompatibility of temperament between the various old styles as to render a successful fusion impracticable?

It would be too much to expect of one man that he should conclusively answer so great a question. But Mr. Cotton's book has certainly stated the question with a force and directness which cannot fail to contribute very considerably to the final answer which will in due course be forthcoming, not from one man only, but from many minds converging to one course of principle and practice. Indeed already, while this author has been thus writing and designing, other architects, prompted by the same spirit of modern development which has inspired him, have very largely set aside archæological restraints—as witness the executed works of Messrs. Waterhouse, Collcutt, Aston Webb, and others, all stamped with the individualisms of their authors. Pieter Rodek's design (R.A. Travelling Studentship 1895) for a town church is another notable example of this; and in (R.A. Exhibition 1896) H. Wilson's Study for West Front of Proposed Church of St. Andrew's at Boscombe, we have a weirdly extraordinary and charming instance of the fusion of English Perpendicular with Egyptian Pylonic. Therefore, while we may regard this book as a *voice*, it certainly does not cry in an utter wilderness.

The principles advocated by Mr. Cotton do not require the architect who embraces them to embrace with them the Mediæval-Moorish blend, which seems to be the prevailing and favourite note of Mr. Cotton's published designs; and beautiful though many of these are, if regarded merely as designs in the abstract, they would perhaps have been welcomed more warmly a quarter of a century ago than now; for then the charms of "Queen Anne" had not succeeded in seducing enthusiastic Gothicists from their first love. Obviously, the architect of classic feeling and refinement could follow the principles our author espouses no less fully and freely than could the architect of Gothic fire and fancy; and which of the two in applying those principles would produce the more popular designs would depend not only on themselves, but also on the trend of public taste.

"Our little systems have their day: they have their day and cease to be." The day of the Gothic revival in this century has proved very short, and no one can say in what direction the next great architectural wind may blow. It may be that such a gathering together, as Mr. Cotton's work suggests, of all the forces of architectural thought and sentiment into one focus of modern design may issue in a resultant new style of greater force and beauty than any the world has seen yet. Meanwhile, the stickler for archæological propriety should not too eagerly cut down the young sapling because it forces aside the decaying branches of the mother tree.

The American architect is solving some of these modern problems in his own characteristic way. It is hardly likely that Europe will follow suit; though it must be allowed that the rock-faced, big-blocked granite basements, with their bold arches and more refined upper storeys, having carving of the very best sparsely applied, and roofs unaffectedly simple and picturesque, present in many cases architectural effects exceedingly novel, pleasing, and, from their great scale, even grand. There really are in this American development strong indication and promise of a new Transatlantic style, and about it there is a Doric sternness such as sometimes characterises great art. This sternness is conspicuous by its absence from Mr. Cotton's debonnair designs. But this seeming defect may be greatly discounted by the consideration that they are *designs* of details and parts, rather than *compositions* of whole buildings. The author himself anticipates criticism on this head. He says:—

> Evoked no doubt by the fussiness and want of unity so apparent in much modern architecture, a cult is springing up for the promotion of greater simplicity, and with its aim I am in perfect accord; yet I may be told that these suggestive sketches of mine are lacking in that very respect, and that they are too elaborate or over-ornate. To such an impeachment, if made, I would plead that I do not deny that simplicity is largely characteristic of good art, and that possibly some of the designs might be plainer with advantage, though if executed, and seen in their proper places in a building in connection with their usual wall-surfaces, the whole effect would not be unduly rich. None of the designs are more ornate than many similar subjects in old work.

No doubt the elaborateness of effect is partly due to the drawings, so conscientiously showing every joint and detail; and in execution this elaborateness would be greatly tempered not only, as the author says, by the contiguous spaces of dead wall, but also by the monotone of material, and by the subduing influence of shade and shadow.

Some of the designs are exquisite as a strain of Mozart. A building having one doorway or window, such as those suggested by this book, could well afford to be otherwise little else than a mass of plain walls and roofs, for one feature of the kind would give the building an artistic interest and distinction denied to many a more pretentious edifice.

In choosing subjects for the designs which illustrate the suggested new departure, Mr. Cotton has for the most part contented himself with doorways, windows, gables, chimneys, and woodwork for dwelling-houses, and also some new traceries and treatments for church windows and church column caps, gates and gateposts, tombstones, shop-fronts, and, last but not least, a few extremely beautiful towers.

It has been urged that in this choice of subjects our author has begun his enterprise at the wrong end; and that he ought to have produced, as illustrations of the proposed new development, not designs for particular features and details, but for buildings complete—as, for example, a design for a brewery or theatre. But this contention seems to have no historical warrant; for those remarkable developments of old-world architecture which distinguished Mediæval cathedral from Greek and Roman temple were not due to any sudden proposal to cease building Parthenons and commence building complete minsters. The great change did not come that way at all; but by variations in the treatment of small details, little by little, line upon line, the Doric order yielding to the Ionic or Corinthian, and the beam giving place to the arch, as slowly but surely the fashion of architecture passed from phase to phase in a long series of perpetual change.

By offering, as he has done, suggestions for new treatments of modern details, Mr. Cotton has certainly acted more in harmony with previous archæological developments than he would have done by putting forth a complete set of plans, elevations, and sections for a new brewery or theatre designed on a novel principle; and to complain of his method of procedure is no more reasonable than to have found fault with Callimachus when he produced his design for the Corinthian capital because he ought rather to have proposed plans for a novel kind of temple.

Mr. Cotton's book cannot fail to influence the thought of every architect who studies it. The principles it advocates may safely be left to work their own work in the minds of the younger generation of architects; and though it would be very deplorable if those who are unable or too inert to make their own designs were to make this book their free quarry (and the author intimates that that is contrary to his wish and purpose), and while some architects will perhaps learn no more from Mr. Cotton than that the Saracenic infusion is a comparatively unworked field, there will be other architects each of whom in his own way will give effect to the book by using in his own designs that principle of fusion and free but judicious combination of old styles which it advocates. Any startling development along this new line of thought and practice would naturally be resented by a public educated in the faith that "the thing that hath been is the thing that shall be." But by a gradual introduction of new and freshly beautiful combinations and treatments the public taste may be moved and eventually won to regard with pleasure the growth and blossom of a newly grafted stem on the grand old trunk of the world's architecture.

The book is handsomely printed, and while its great wealth of ideas and suggestions makes it specially valuable to architects, it is of such general interest as to be suitable for the private library of all concerned in art progress.

Sunderland. FRANK CAWS.

NOTES, QUERIES, AND REPLIES.

Remains of the Priory of Holywell, Shoreditch.

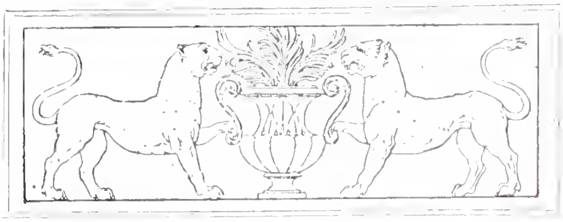
From HENRY LOVEGROVE [*A.*]—

A few months ago, while superintending some underpinning on or near the site of the Priory of Benedictine Nuns, not far from the Standard Theatre, Shoreditch, I discovered the remains of a massive stone wall, the material being similar to that used in Yorkshire. During the last few weeks an ancient well has been discovered under the pavement opposite No. 200, High Street, Shoreditch, a few yards from the before-mentioned wall. The well has brick sides, and is evidently of ancient date, the covering being a few feet only below the surface. Stow writes that the sweet, wholesome, and clear well was spoiled in his time by the manure heaps of the nursery gardens. That the well was used until a comparatively recent date is shown by the fittings found when it was opened. Until the dissolution there stood on this spot a Benedictine nunnery of St. John the Baptist, said to have been founded by a Bishop of London; and it is stated that in 1195 King Richard I. confirmed the grant to the nuns of certain lands by Galfridus and Melichas. The well gave the name to Holywell Lane, in which street lived and died Richard Burbage, the tragedian, who played the original parts in many of Shakespeare's tragedies. Two of the earliest theatres stood not far from this spot, or between it and St. Leonard's Church, then a building with four gables and a low square tower, more interesting than the present ugly structure designed by Dance in 1740.

The Galli-Bibiena Family [p. 23].

From JOHN HEBB [*F.*]—

In continuation of the note on p. 23 relating to this family, it may be noted that Ferdinando Galli-Bibiena built the Alberti Theatre at Rome, which is described as having had six tiers of boxes with an irregular and inconvenient curve. The length of the pit was about 55 Paris feet, and its greatest breadth 51½ feet. The theatre is further described in a document of about the end of the last century as having had miserable entrances, wretched staircases, impassable corridors, and the very worst situation. This theatre, which was the largest in Rome, was, together with the Tordinona and the Argentina theatres, built entirely of wood. Francisco Galli-Bibiena, brother of Ferdinando, also built the Teatro Filarmonico at Verona, under the direction of the Marquis Maffei. This theatre was very much criticised at the time it was built, but that was chiefly because it did not conform to classic models.



MINUTES. II.

At the Second General Meeting (Ordinary) of the Session, held Monday, 16th November 1896, at 8 p.m., Professor Aitchison, A.R.A., *President*, in the Chair, with 17 Fellows (including 7 members of the Council), 19 Associates, 1 Hon. Associate, and numerous visitors, the Minutes of the Meeting held 2nd November 1896 [p. 24] were taken as read and signed as correct.

The following members attending for the first time since their election were formally admitted, and signed the respective Registers—namely, John Tavenor Perry, *Fellow*; and Osborn Cluse Hills, *Associate*.

A Paper by Mr. R. Phenè Spiers [*F.*], F.S.A., entitled The Great Mosque of the Omeiyades, Damascus, was read by the author, and, having been discussed, a Vote of Thanks was passed to him by acclamation.

The proceedings then closed, and the Meeting separated at 10.15 p.m.

LEGAL.

THE LONDON BUILDING ACT 1894.

District Surveyors' Fees.

LOVEGROVE *v.* ALLSOPP.

Mr. Haden Corser, the magistrate at Worship Street Police Court, gave judgment on Monday the 12th October in a case affecting Messrs. Allsopp, the well-known brewers, who were summoned in respect of certain fees claimed by Mr. Henry Lovegrove, District Surveyor of South Islington and Shoreditch, for surveying premises at Maria Street, Kingsland Road.

Counsel represented Messrs. Allsopp; and Mr. Hinton, solicitor, represented the London and North-Western Railway Company (owners of the premises). Mr. Lovegrove conducted his own case.

The premises in question are arches under the London and North-Western Railway, used by Messrs. Allsopp as stores for their ales, which are there racked off from barrels, which barrels are brought over the London and North-Western Railway from Messrs. Allsopp's breweries. The claim for fees was in respect of an addition to one of these arches; but Mr. Lovegrove had not discovered the new work until after it was completed, and then on claiming from the builder he found the latter had ceased his connection with the work. The claim upon Messrs. Allsopp was as occupiers under section 154 of the London Building Act 1894, Mr. Lovegrove admitting that he had not claimed from the owners, the railway company, as, not having received notice, he had no proof of ownership. The claim was resisted on two grounds: that the premises were part of the railway system, and exempt as being "used for the purposes of or in connection with the traffic of" the company (section 201); and (2) that the occupier was not liable for work done before he had taken possession.

The building in question had been erected on a piece of ground fronting Maria Street and adjoining the railway, and was included in the lease of the arch.

The learned magistrate, in a lengthy judgment, pointed out that the London Building Act, unlike the Metropolis Local Management Act, did not declare that any "future" owner or occupier should be liable for building fees, and said that if he were to decide—for that was what was asked by Mr. Lovegrove—that a "future" owner or occupier was liable, it would render a new purchaser liable for the payment of fees incurred, perhaps, ten years before. With respect to the contention that the premises were "used for the purposes of or in connection with" the traffic of the London and North-Western Railway, he (Mr. Corser) decided that they were not. It was true that the beers were brought in barrels over the railway named to the premises for Messrs. Allsopp; but were then stored by the latter to settle and fine, and afterwards bottled in the arches. If the railway company bottled the beers before delivering them to Messrs. Allsopp, it might have been held to be a part of their "traffic." The magistrate also remarked that the Act of Parliament made the difficulties in the way of giving the surveyor the fees for which he had worked, and having waded through the ill-digested Act he could only hope that if ever its amendment was taken in hand the assistance of metropolitan magistrates and some of the clerks would be asked for to explain how the Act worked.

The summons was dismissed.

Dangerous Structures.

This case, which came before Mr. Cluer at the North London Police Court on the 28th October, raised the question whether the dangerous structure provisions of the Act applied to premises which were alleged to be dangerous in the rear and in the interior (ceilings, &c.), and which were unoccupied. The case came originally before Mr. Bros on the 21st October, when objection to the proceedings of the London County Council was taken, and the magistrate adjourned the matter in order that case law upon the subject might be produced, and suggested further proceedings under the neglected structure provisions. On the present occasion it was agreed that Mr. Cluer should deal with the case, and the proceedings were commenced *de novo*.

Mr. J. W. Godfrey appeared for the London Council, and the owner was represented by Mr. Preston. The premises in question are situated at 130, Cassland Road, and Mr. Alexander Payne, the District Surveyor for South-east Hackney, gave evidence in support of his certificate of condemnation. He was not cross-examined, as Mr. Preston intimated that he should deal only with the point of law raised. He argued that as the house stood back from the road for a considerable distance, and was in its own grounds, and was unoccupied, it could not be a dangerous structure to passengers or inmates, as contemplated by the Act. If the Council had taken the proper proceedings, they would have instituted them under the neglected structure provisions, although he would not admit that the house in question was a neglected structure.

Mr. Godfrey contended that the case of *The London County Council* v. *Herring** made it quite clear that the Council's proceedings were regular, and urged that many persons might lawfully go on the premises, which were advertised to be let by means of boards which were in the grounds. He further pointed out the distinction to be drawn between the provisions dealing with dangerous structures and neglected structures.

Mr. Preston said that the case quoted supported his view, as the houses were occupied, and that that fact explained the Judge's ruling.

Mr. Godfrey replied that the houses were not all occupied, and, even if they were, it would not affect the general question, as a house occupied one day might be vacant the next, and *vice versa*.

After hearing the arguments, the magistrate decided in favour of the Council, holding that the premises were dangerous within the meaning of the Act, and he made an order upon the owner to do the necessary work.

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* Journal (1894), 3rd Series, Vol. I. p. 547.

WILLIAM H. WHITE: HIS PLACE IN LITERATURE.

Quis æquus rerum æstimator non eos præferat, qui sacra literarum colentes, iis, qui bella horrida gerentes, clari fuerunt?—LAURENTIUS VALLA, *Elegantiæ.*

IT is perhaps worth while to consider whether the value of an art is not generally inverse to the value of its necessary materials. I do not suppose the position could be held universally; it could easily, and perhaps fallaciously, be put to ridicule by a *reductio ad absurdum*—as, for instance, that under such a theory pottery is essentially a higher art than that of the goldsmith. For all that, there is more than a grain of truth in the view that a simple, uncostly, and public material is part of the secret of the greatness of an art. Obviously, to be master of a craft of which all men can possess alike the tools and the means is to excel in a wider field than can be covered by any art whose necessary vehicle is obtainable only by the few. Viewed in this light, the highest of the arts is prose. Language, one may say, is the common and uncostly property of all mankind; and so is thought. Therefore, to have thought the best, and to have clothed one's thought in the purest language, is to have beaten universal man on his own ground. Here lies the pre-eminence of prose, a greater art than even poetry, for reasons which, again, are debatable, but which may for the moment be taken for granted on the ground that both the matter and the form of prose are more nearly vernacular than those of the sister art. Prose, then, being what it is, how amazing is the modesty of the prose-writer who remains anonymous! Were it not genuine and unaffected, it would be a parallel to that mock humility of the Spartans which Aristotle rightly ranked as an equal vice with pride. The machinery of English literature to-day is such that acres of anonymous scripture is turned out every year—much of it, of course, unworthy the name of prose, much of it written, under compulsory anonymity, by men who would gladly, had circumstances permitted, have added their name to their work. But it is not so with all. There are men and women of our day, accomplished writers, who, either from direct choice or in uncomplaining indifference, send out to a public, more than half of whom are inappreciative, works of art of such a value that had a sculptor or a painter produced them he would have cut or scrawled his name thereon with indecent prominence.

William H. White, though not persistently anonymous in his writings, was one of those who are content to appeal to a very limited public with work into which they put an amount of skill and energy altogether worthy of a wider recognition. I am concerned here only with his work as a writer, and must express the conviction that many members of the Institute, while they are aware that the late Secretary acted as editor of this Journal, and was generally responsible for those parts of the periodical which were unsigned, have no definite idea that he was an author, except in respect of certain Papers read before the Allied Societies. Some men have writing, like greatness, thrust upon them; others write because their pen is ablaze with inspiration; others, again, because they have made, consciously or unconsciously, a study of prose as an art. White had something of these last characteristics. I have no wish to claim for him, in the blindness of a funeral oration, a place of the first rank as a writer—his own cool judgment would have been ready to disclaim any such pretension—but we should all do him less than justice if we failed to recognise his possession of certain literary qualities which are sufficiently rare to be noticeable even in this age of letters. For all his long hours of work at the Institute, work which he went through bravely and cheerfully even after the beginnings of the tedious illness which took him from us, he found time in his leisure to be a loving student of the art he practised. Prose was to him what bodily recreations are to many men—it was a sport as well as a hobby.

His long residence in France and his familiarity with things French must have aided in him the growth of that appreciation of prose which is a necessary basis of the ability to write it. France is the home of the finest prose. Some one has said that no Frenchman would ever write poetry if he realised the opportunities for prose which his language affords. There is, too, a subtle affinity between prose and architecture. To enlarge upon it is to enter a wider subject than can be handled here; but any one who has produced in both arts, and has gauged the mental exercise which both demand, will realise their common elements. Kindred is the purpose of both, the housing in one case of a family or a body corporate; the housing in the other of an idea. Again, common to both is the nice arrangement and choice of the material which must be appropriate to the subject, and must reverence the tradition of the craft. In fact, as a signal of this we apply the term Style more especially to prose and architecture than to other arts; and there is no difficulty in realising, in further proof of such community and mutuality, that prose can be Palladian or Rococo, while a building may remind you of nothing so much as an essay by Sir Thomas Browne or Robert Louis Stevenson. Finally—and this is the greatest bond—both arts rely for success on a despotism of proportion which is the more exacting because undefinable. The Greek and Roman Orders are, to be sure, tied up in a system of mathematical ratio so simple that they might be taught and learnt in a Board school. It has even been attempted to apply some system of geometric proportionment to Gothic architecture; and there have been scholars who rejoiced to cover sections of the great French cathedrals with a palimpsest of Euclid, and to clap a Pons Asinorum on to the west front of Amiens. But, after all, in the masses of a building, and even in its parts, except where you are led by some definite and respectable tradition, the appeal in proportion is to yourself. I speak to the architect, or again to the prose-writer. Your ear has to balance that sentence: your eye has to narrow those gables; no book of ratios will tell you to add the weight of a three-syllabled adjective to that phrase; nor is there any manual but your own trained brain, or that of a friend, that will guide you in the height of your clock tower.

Let us grant, then, the affinity of word-architecture to the sermons in stones, and let us cease to wonder that our late friend, trained in the land where both arts ripen well (some would say best), should have practised both, and that latterly, when he was chosen as a secretary to live by the pen, he should have encouraged that pen to higher flights than are appropriate to a minute-book. Not that he was too high-minded to give whole-hearted care to the daily, and at times unlovely, duties of his office. Far from it. I suppose no successor that he may have could possibly surpass the intimate and loyal care with which he directed, and even shared, the minutiæ of the work in his department.

But I must come to some special account of his writings; and here let me own that I never woke to a sense of his power and sympathy as a writer more fully than on reading his article on "The Architectural Literature of France," published in this Journal in January of the present year. It was nearly the last article he wrote for our publication, and, as it was to have been succeeded by two others on the same theme, can only be looked upon as the barest introduction to the threshold of the subject. In fact, it is largely occupied with the forerunners of French architectural literature. In reading this essay, though it is but a quiet and unemotional summary, you are driven to share the writer's enthusiasm for the past ages into which he puts himself for the hour; and maybe, if the things a man writes of in such a way are things that hitherto lay outside your heart, and no nearer than the fringe of your understanding, you have to bless as well as thank him for the scholarly fervour that leads you with him to a nearer view. There is nothing gushing or high-flown about the article, but an unostentatious intimacy with the subject more alluring than tall language. Those great ages of France in which architecture found a place in noble tomes and noble minds, and in the hearts of kings, were to White the happy pastures of his reverie. Read his small volume on "Architecture and Public Buildings," and you will find in its opening chapters a fresh though learned monograph on the rise and progress of French academic art. Read his pamphlet on "The Antechamber," a brilliant plea for more space in our modern entrances, and you will realise the atmosphere of the days when Blondel did homage to Louis the Great and Desgodetz to Colbert; or, again, he will take you further back into the twilight of the Middle Ages. Read his Paper on the "Architectural Profession," which fulfilled, among other purposes, that of heralding our present examination system, and you will there find perhaps more than you knew before about the centralisation of Mediæval architecture and the paramount influence of Cluny, a subject which White worked out more fully and with learned insistence in a later Paper styled "Arts and Artists." This little essay has a genuine value as a brief, consistent, and continuous study of the history of architecture for the last two thousand years. One needs to be reminded now and again, as the author here warns us, of the connection between those great periods of architecture which we are too apt to divide mentally into dissociated volumes. White's researches into the still remoter past—a field in which he never spared himself the labour of collecting and verifying material—led him to write in *The Builder* (vol. xxxiv. *et seqq.*) a series of articles on "The House and Household at Different Eras," which there is reason to believe he had intended to publish in a separate form. The original impetus which launched him on this enterprise was probably a feeling of indignation at the glib assurance with which Viollet-Le-Duc's pen and pencil had laid down the law in his *Histoire de l'Habitation Humaine.* White combated the idea (cherished not by Viollet-Le-Duc alone) that Greek homes were necessarily comparable to Greek temples, and he fought with his authorities at his elbow. Becker, Schneider, the Abbé Barthelemi, Vitruvius, Perrault, and Galiani, these are some of the names he has marshalled in his first chapter, a well-studied review of Greek life and habits. His second chapter (I am speaking of the divisions introduced by the author *after* publication in *The Builder*) dealt naturally and not less carefully with Rome, and the remaining chapters (there were five in all) brought the subject down to the English houses of the Elizabethan period.

Possibly White will be best remembered (in connection with *The Builder*) by his various and spirited communications on the public buildings in Whitehall. The first of these was, I believe, that which appeared in August 1877, under the title of "The Story of the Government Offices," a very careful though caustic article, which reviewed the actions of the Ministries since

1839, and was illustrated by a plan embodying *The Builder's* proposals for the laying out of Whitehall Gardens, Scotland Yard, and the adjoining sites. In the last number of the same year White was again in print, this time with a humorous tale of old time entitled "The Vicissitudes of Westminster and Whitehall," and put into the mouth of a garrulous madman who professes to have been alive (and observant) since the days of Edward III.

White could be, when he chose, a deliberate humourist, and nowhere did he show himself more ably in this capacity than in the succeeding article, "At the Top of Two Towers" (*The Builder*, Feb. 1878), an ingenious and fertile dialogue between Charles II. and George the Regent on the subject of London improvements. In a similar strain, though perhaps less spontaneously funny, is a Paper on "The British Museum and the Advancement of Popular Knowledge." Yet another mood, one of mock academic sarcasm, was assumed in the letters to various men in power on the subject of the competition in design for the Admiralty and War Offices. The letter to the Duke of Bedford (1877) on "Houses or Homes," though opening in a conscious imitation of the epistolography of the eighteenth century, is a serious address to London landowners on the housing of the poor; an appeal for the adoption of the French system in lieu of our disgraceful tenements; in fact, an appeal for flats, which since the letter was written has been largely responded to by the erection of artisans' dwellings. The housing question was one that White had near at heart, and if you wish to see his humorous treatment of the same subject read "How some People Live" in *The Builder* of 23rd March 1878. Time and space will not permit of my further enumerating the subjects on which our late friend exercised his pen. Perhaps enough has been said to show that the range of subjects was wide and the method of handling various. At the risk of basing a conclusion on an incorrect assumption, I would draw attention to the fact that when the late James Fergusson died there appeared obituary notices in *The Times*, *The Builder*, and *The Architect*. These three accounts are quite distinct. They necessarily have in common the bare facts of age, date of death, parentage, &c.; but whereas all of them are critical, they each approach the subject from so fresh a point of view, and discuss the dead man's literary character from such variant standpoints, that but for certain small signs one would really doubt the possibility of their coming from the same pen. There are evidences that White wrote them all. If he did not, I know that he could have done so, for his fertility of thought could easily have carried him even three times within a week along different channels from the same topic. He was eminently fitted to gauge the work of a critical writer, for his own view in the philosophy of architecture was singularly clear.

My eye falls, as I write, on an article which he prepared, probably for a professional journal, on the subject of "Stucco." In it he attacks with many a well-placed though good-natured thrust that spinster-like prudery which was the misshapen offspring of distorted Ruskinism. That lamp of Truth, how often has it glared in the bull's-eye lantern of a middle-class intelligence! How easy it was to take Ruskin *au pied de la lettre*, and how wrong! Why, even Ruskin gave it up a matter of ten years ago. The theory that everything about a building should appear on the surface to be what it is within is, to be sure, an easy one to refute, if only by a reference to the works of nature; but the refutation could not easily be put more gracefully than White has put it. Our decency had become indecent, as if one should demand of man that his skin should no longer conceal his—digestion. Not merely, says White, have we fished up Truth from the bottom of a well, where she had modestly sought refuge, but we have persisted "in exposing the unsophisticated fugitive to the public gaze." In fact, as he might have added, Nuda Veritas threatened to become Vera Nuditas.

But enough. I have indicated some of the sources in which those who would like to make themselves better acquainted with a too retiring writer may lay their hands on his half-forgotten works. It remains only that I should speak of the way in which he kept his mind in training. His writing, with all its faults, was scholarly, and scholarly writing is accomplished only by a brain that is nourished on the great writers of the past. It is fine to speak as Stevenson spoke of a kitchen floor and an ounce of tobacco as the only fittings required for literature. They are, or may be, useful vehicles of expression, though White did without either; but the real fuel that keeps the machine at work is of another sort. White studied as few men study, and here are the great men that stood in print at his side – Congreve, Fielding and Swift, Burke, Addison and Sidney Smith, Montesquieu, Bacon, La Rochefoucauld, Thackeray, and Gibbon and Sterne. Lastly, he possessed that greatest aid in composition, a second language. The man who can speak or write in two tongues -- and White wrote so well in French that a French editor left his copy uncommonly clean—can never fail, as many fail, in the anatomy of syntax. The language of such a man is essentially vertebrate; and it will be found that in White's writing (though there are faults, and chief among them the occasional lapse into commonplace expression) there are never found those disintegrations of a sentence which are the result of an imperfect knowledge of the universal laws of construction.

I have often heard him inveigh against any resistance to the law of succession. When a building of some interest was doomed, not out of mere thoughtless philistinism, but because, by some necessary and economic change in human conditions, its space was needed for another purpose, he would urge the futility of interference, and would indeed argue, to the horror of some of us who had tenderer hearts for things ancient, that if old buildings never came down young architects would never come up. To be sure, more than half of this was assumed cynicism, but there is a horrid truth in the too visible fact that we tread on one another's heels. If that horrid truth be even a law of nature, let us by virtue of a gentler law suspend its action in the present case, and keep alive for our own short time the memory of one who took so little thought for the publicity of his own creations.

Paul Waterhouse.

⁂ The following is a complete list of Mr. White's signed contributions to the Institute Transactions, and independently published works:—Government Architecture in Bengal, S.P. 23rd March 1874; "Hope of English Architecture," S.P. 14th Dec. 1874; Houses or Homes? An Architect's Appeal to the Duke of Bedford, pam. 8o. Lond. 1877; Middle-class Houses in Paris and Central London, S.P. 19th Nov. 1877; A Brief Review of the Education and Position of Architects in France since 1671, S.P. 4th Feb. 1884; Architecture and Public Buildings: their Relation to School, Academy, and State in Paris and London, 8o. Lond. 1884; A Protest against the Amended Design for proposed Admiralty and War Offices, pam. 8o. Lond. 1884; The Antechamber, To-day and Yesterday, in French and English Plans, pam. 8o. Lond. 1885; The Past, Present, and Future of the Architectural Profession, pam. 12o. Lond. 1885; Biographical Notice of James Fergusson, pam. 8o. Hertford, 1886; Arts and Artists in Former Times and To-day, pam. sm. 8o. Lond. 1892; The Burlington-Devonshire Collection of Drawings formerly at Chiswick, S.P. N.S. viii. 1892.

DESIGNS AND SKETCHES BY THE LATE WILLIAM H. WHITE.

Summary of the Description by Arthur S. Flower [*A.*], M.A., F.S.A., at the Special General Meeting, 30th November 1896.

Mr. Chairman and Gentlemen,—

THE drawings exhibited here to-night almost speak for themselves. They are by no means a complete collection of the sketches and designs of our lamented Secretary. They are simply a chance gathering of specimens of his work, many of them seeming to owe their preservation to accident. Enough are here to bear witness to the high quality and versatility of his powers, but it is obvious that between them are many gaps. Results such as we see here could not have been achieved without many intermediate stages; some of these are just indicated, others not at all. I have tried to arrange all the attainable drawings in chronological order, so as, if possible, to add a little to the life-history of our late friend, about which, as with everything concerning his own work, he was ever most modestly reticent. The earliest of the drawings exhibited is the small sketch in water-colours of a farm and group of elms, done near Lewisham. The date of this is 1857, its author being nineteen years old, and it may be called slight and crude, though not without promise. But the following year shows an extraordinary advance. The holiday work of 1858—White was then serving his articles with George Morgan, in London—is represented by six sketches, some of which certainly would do credit to any artist of the same age.

Three of these are landscape studies in water-colours—"The Ravensbourne," "Lewisham," and "Frinton, near Walton-on-the-Naze"—already showing remarkable skill in handling and an excellent perception of colour. The others are simple but boldly drawn sketches from York Minster, representing one of the flying-buttresses of the Chapter House, a pinnacle of the South Transept, and a capital from the West Front. Of the next year we have no reminiscences; and of 1860 only one English sketch, of some Norman work at Canterbury. But later in this year White's Continental period begins, and we have the first of a series of extremely interesting studies. This tour seems to have begun with Belgium and the Rhine, and he must at this time have been considerably influenced by the work of Prout, as may be seen in the sketches from Antwerp, Ghent, Louvain, Cologne, and Strassburg. A gradual increase in the strength of the pencil-work, with a corresponding diminution of the use of colour washes, will be noticed in these sketches; and by the time of the three drawings from Reims, the last of this year, a more distinctly architectural manner has been attained. The next few years, spent as an assistant in a Paris office, are but scantily represented. Of 1861 there is the picturesque "Pompe à feu," described as "Opposite Bagatelle" (Sir Richard Wallace's château just outside Paris), in which the influence of French methods is already evident; while of the next four years there are only two sketches from Rouen, and three from the "Maison Gothique, Bagatelle," all done in the autumn of 1863. Before the date of the next group of sketches White had started practice in Paris on his own account, and was busy upon various works, the designs for which are perhaps the most interesting part of the collection. It may be best, though, to finish with the sketches before referring to the other drawings.

Great variety of method distinguishes the work of 1866, represented by nine sketches, ranging from the plain pencil-drawing of Laon to the extremely bold and effective water-colour view of Chenonceau, almost an "impressionist" work. Of the next year there are, besides two sketches on the way, eleven sheets of careful views and details of Mont Saint-Michel, the more interesting on account of their being done before the somewhat severe restoration which the abbey has undergone. A few brown-ink drawings from Carcassonne remain from 1868, and the French series is completed by the water-colour sketch of the "Tour de Philippe le Bel," at Villeneuve-les-Avignons, 1869, a capital rendering of the stern "four-squareness" of the tower and the glare of Provençal sunshine. Between the sketches and working drawings should be mentioned the large Indian-ink and water-colour perspective of the flèche of Notre-Dame, Paris, of which there is no date or description. White's architectural work in France, so far as illustrated by the drawings before us, mainly consisted in the rebuilding, on a much grander scale, of the Château de Bizy, at Vernon, Eure, and of large additions, practically equivalent to a new house, to the old Château de Martinvast, near Cherbourg, Manche. An immense number of very thorough working drawings for these two buildings, mostly by White's own hand, are bound up in the two volumes on the table, where they may afterwards be inspected; but in the meantime the general character of each design may be seen from the large perspective views and other drawings, as well as from the photographs of the completed works.

Bizy, for the Baron Fernand de Schickler, is slightly the earlier in date of execution, the first drawing connected with it being dated February 1864, and the others ranging up to 1867. In this instance the style of the old château, portions of which were incorporated in the new building, and very likely the individual preferences of the owner, regulated the entire design. One is reminded of White's own saying when referring, in a review in the Journal some three years since, to the "triumph of archæology in France during the sixties." "Among individuals," he wrote, "a similar desire not to be thought modern was general. Architects were ordered to design châteaux and villas in the *style Louis-Seize*, and their clients said to them: 'Entendons-nous bien, le *Louis-Seize* pur! pur!! tout pur!!!' Others of a more robust nature ordered the *Louis-Quatorze*."

Although himself at that time evidently very much under the influence of Viollet-Le-Duc, or at least in perfect agreement with his teaching, he seems in this instance to have entered completely into the spirit of the "grand manner" of the eighteenth century; and what is more remarkable, considering his very short experience, has succeeded besides in rendering the whole of his work, down to every turn of his mouldings, purely and idiomatically French in expression. Some of these drawings are specially instructive, as showing the minute precision in working drawings demanded in France. The mason's details for the principal front are a good illustration of the labour which this system involves. The greater part of the Bizy volume is taken up by the château itself; at the end will be found some designs for farm-buildings, of quite different character, but worked out with the same laborious accuracy. If these are not quite in accord with present canons of taste, they are nevertheless creditable work, if we consider the circumstances of their erection, and recall the notions prevalent thirty years ago. Of the same class are the designs for a village school at Gloton, Seine-et-Oise, 1865, a clever piece of colouring; and for a Protestant church at Mantes, dated the year after. The new buildings of Martinvast, for the Baron Arthur de Schickler, on which White was occupied during the next two years, probably exemplify the manner of working which was most congenial to him. These designs, as also some undated sketches for alterations to the Château of Meneton, near Bourges, for Prince Auguste d'Arenberg, and for a country house near Meudon, for Madame de Schickler, have on them a vigorous and genuinely masonic stamp, suggestive at once of the spirit of Burges and of Viollet-Le-Duc, though free from the attenuation and excess of angularity which render the works of the latter somewhat unsatisfactory to English eyes. The works at Martinvast were fully described, with a few illustrations, in *The Architect*, 21st May and 17th December 1870. During this period White entered into various competitions both in France and in England, winning in the former several medals for being placed second and third. Some of his English competition work is shown in the small photographs from coloured perspectives. The sudden and sad close of this active time has already been related, and we must pass on to the remaining drawings; but it is right to remind every one looking at these records of work accomplished that all this was done by the age of thirty, and with singularly few advantages in the way of instruction or of assistance from others.

In 1871 White went out to India, and spent two years in the service of the Public Works Department. During this time he designed the Court of Small Causes at Calcutta, the Bengal Presidency College, and a monument to Chief Justice Norman in Calcutta Cathedral. The College is only represented by one small photograph, but of the Court of Small Causes there are both working drawings (tracings) and a general view and plans, published in

The Builder (23rd March 1878). This building, it should be mentioned, had of necessity to be constructed, in the manner usual at Calcutta, of rough brick stuccoed over into the semblance of stonework—a method in itself fatal to good architecture. Of the Norman monument, which appears to be a dignified and graceful work, there are, unfortunately, only some rough tracings and small photographs of sculpture. A measured drawing of some very singular masonry in the Fort at Agra completes the list of Indian drawings. After his return to England White never had another chance of erecting a building of his own design, though some competition drawings for a large boys' day school (to which no particulars are attached) have a great deal practically, as well as artistically, to recommend them.

The last but not the least striking or important drawing to notice is the one entitled "Queen Anne, 1874." This was drawn as an illustration to a Paper entitled "The Present State of Thought concerning Architecture," read before the Architectural Association on 23rd January 1874, and was accompanied by an amusing key, specifying the various foreign literary sources from which each item of the design was copied. The Paper, no less than the drawing, shows White to have been a true prophet.

The exhibition of these really charming sketches and masterly designs will probably be an unexpected revelation to many of us. Careful study of them makes it evident that when the Institute gained in William H. White an ideal Secretary (as he was well described by M. Auguste Choisy, in a letter of condolence to the President), the world lost at the same time an architect of rare accomplishments and ability.

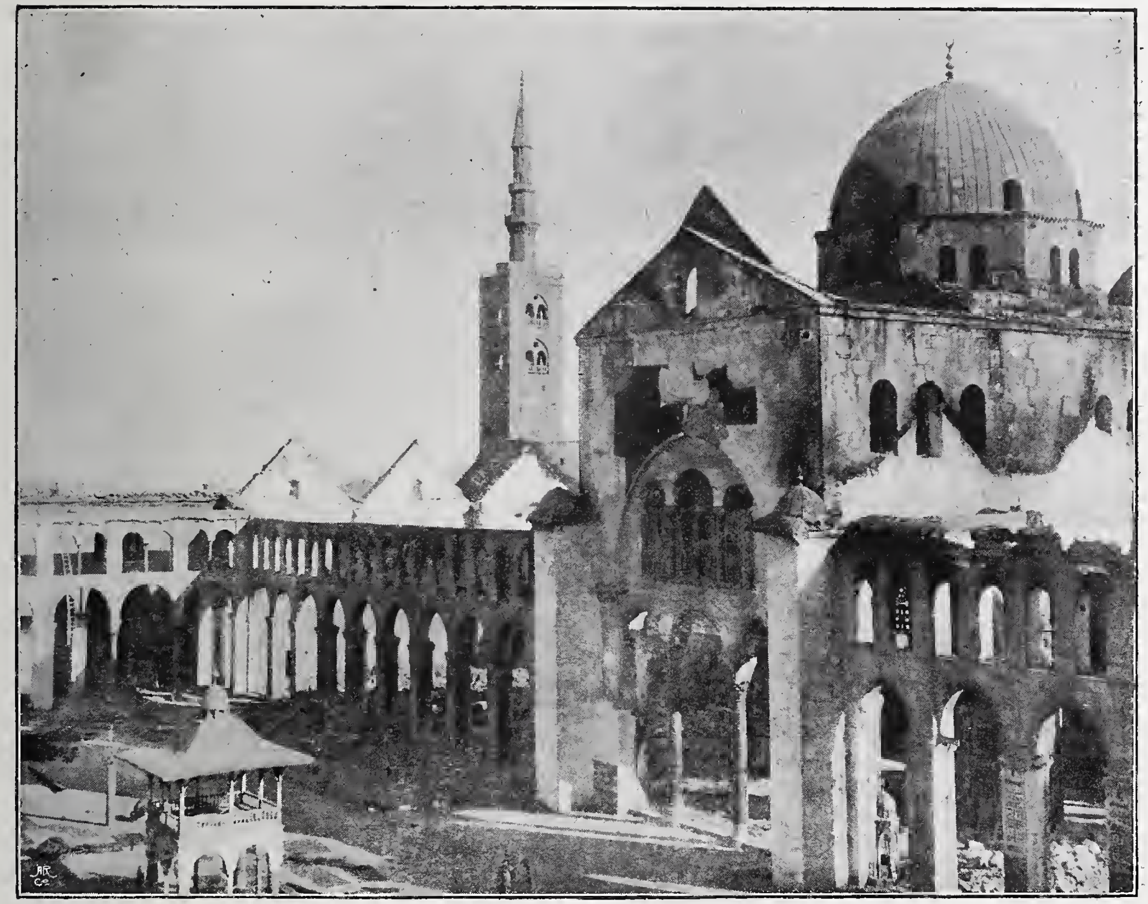

FIG. 15.—VIEW OF THE MOSQUE FROM THE WEST, SHOWING THE NORTH FRONT AND DOME.

THE GREAT MOSQUE OF THE OMEIYADES, DAMASCUS.

By R. Phené Spiers [*F.*], F.S.A.

[Continued from page 40.]

As regards the minarets of the Mosque, Mukaddasi refers to the recently constructed (or more probably restored, for it was built by Al Walid) Mâdhanat el 'Arûs (the Minaret of the Bride) on the north side of the Mosque court. Ibn al Fakih, an early writer often quoted, says: " The minarets which are in the Damascus Mosque were originally watch-towers in the Greek days, and belonged to the Church of St. John. When Al Walid destroyed this church and turned the whole area into a mosque he left these in their old condition." Ibn-Jubair says: " The Mosque has three minarets. One at the south-western side is like a high tower resembling a spacious dwelling divided into chapels. These are locked up, for the minaret is inhabited by Maghribin anchorites. The second minaret is on the south-eastern side, and is of the same description with the last. The third is on the northern side."

The most interesting descriptions given by the Arab authors are those which refer to the great colonnades already mentioned as lining the chief avenues of the city. Mukaddasi says: " Most of the markets are roofed in, but there is one among them, a fine one, which is open, running the whole length of the town." This refers to the straight street, *la via recta*, and its description would suggest that the colonnade was not roofed over in the centre. Ibn-Jubair, speaking of the colonnades on the east and west sides of the Mosque, calls them halls.

To east and west and north of these gates [speaking of the eastern, western, and northern gates respectively] are broad halls. The finest of these halls is that which adjoins the Bab Jairûn, or eastern gate of the Mosque. In front of the portico are steps whereby you go down to the hall. This last is like a great fosse [ditch or sunk area], and leads to a gateway of mighty elevation with sides unwalled, but set all round with columns that are like palms for height and like mountains for firmness. [This is the great portico referred to by Mr. Porter as having been taken down in 1222.] On either side of this hall [the colonnade] are set columns, among which are the rows of shops occupied by the perfumers and the like. Up above is a second row of shops and chambers for letting, and from these you can look down into the hall. All round and about above this is the terrace roof, where the occupiers of the chambers and the shops pass the night (in the summer heats). In the centre of the hall is a large tank rimmed round with marble, and over it is a dome that is supported on marble columns. Round this dome up above is a border of lead that is very broad, and the dome is open to the sky. In the middle of the marble tank below is a spout of brass which throws up water with great force, and it rises in the air for a man's height or more. All round it are smaller spouts which throw up water also, so that the whole looks like the branches of a silver tree, and is most beautiful to watch. The hall that is before the western gate [of the Mosque, called Bab el Berîd] has in it the shops of the greengrocers and perfume sellers, and there is here the market where they sell flowers.

Now the width of the first-named avenue is about 20 feet, and the height of the columns with the entablature about 23 to 25 feet. The shops were probably set back about 10 feet on either side in two storeys, the upper storey set back about 3 or 4 feet further, to allow of a gallery or gangway, otherwise there would be no use in placing shops there. The centre was left open for light, but the side avenues and shops were covered with a flat roof, referred to as "all round and about above this is the terrace roof." The fountain in the middle was probably about 10 feet in diameter, and with its dome on columns about 12 to 15 feet high. This suggests that only foot-passengers entered this hall. On the eastern side the flight of steps down from the great portico would also restrict the traffic to foot-passengers.

I will now endeavour to trace out the plan of the original structures prior to the Moslem invasion. I should like to have commenced with the temple itself, but there are so many difficulties connected with the restoration of its plan, as to whether it ran north and south, as I have already suggested, or east and west, that I propose to take first the temenos and its approaches, of which considerable portions still remain; and here I am indebted to Mr. Porter's plan and the description which he gives.

On the south side of the Mosque, and partially encased in the silversmiths' and other bazaars, runs a double colonnade, which, it is supposed, formed the south portion of a temenos, such as is found at Palmyra, though it is there enclosed with a wall, and such as originally existed round the Temples of Venus and Rome, in Rome. The great portico and the north court of the Mosque is of the same width, and lies in the same axis as the east and west sides of this colonnade; so that as Al Walid is said to have utilised the old foundations, it is a fair assumption that this portico lies on the side of the northern half of this temenos. I pointed out that the portico on the north side of this court is not quite parallel with the Mosque itself, and the only suggestion I can offer for this irregularity is that the road outside on the north of it runs to this central gateway of the old citadel, portions of which belong to Roman times. This would make the temenos 452 feet wide and 460 and 470 feet respectively on the west and east sides. The columns of this colonnade are 20 feet high, the same as those used up inside the Mosque.

At the south-west angle of the Mosque, and on the west of the continuing line of the colonnade, is a tower which now forms the substructure of the Minaret el Ghûrbiyeh. It is built in fine ashlar masonry in courses two feet high, and is decorated with pilasters carrying an architrave and a dentil cornice. In its style it recalls the earlier work of the Syrio-Greek artists before the Roman occupation, and it resembles in its mouldings the palace of Hyrcanus at Arak el Emir, completed in B.C. 176, to which date I should ascribe it. Above this tower, but of a later period, though anterior to the erection of the Mosque south wall, the masonry is carried up in courses about two feet high to a few feet above the level of the Mosque wall. This is one of the Greek watch-towers referred to by Ibn al Fakîh as belonging to the Church of St. John, and by "Greek" he meant the Christian Greeks. The balcony of the upper part of this tower on the east and north sides is ornamented by battlements, which recall the description of those features as originally crossing the exterior walls of the Moslem enclosure and the Mosque itself. The other watch-tower referred to occupies a similar position on the east side. There are no pilasters, but only a string-course, which may be Roman or Christian. In both cases the south wall of the Mosque has been built in between these towers and ends in a vertical straight joint, the towers being outside the south-west and south-east aisles respectively. The west tower may have been a tomb: there are no windows to it, and it is entered by a door in the north-east corner, leading into a narrow and lofty passage. On the east and west sides of the temenos—but not in its central axis, being about 78 feet to the north of same—are two colonnades running at right angles to it: that on the east 320 feet long, that on the west 184 feet. At the western end of the latter is the

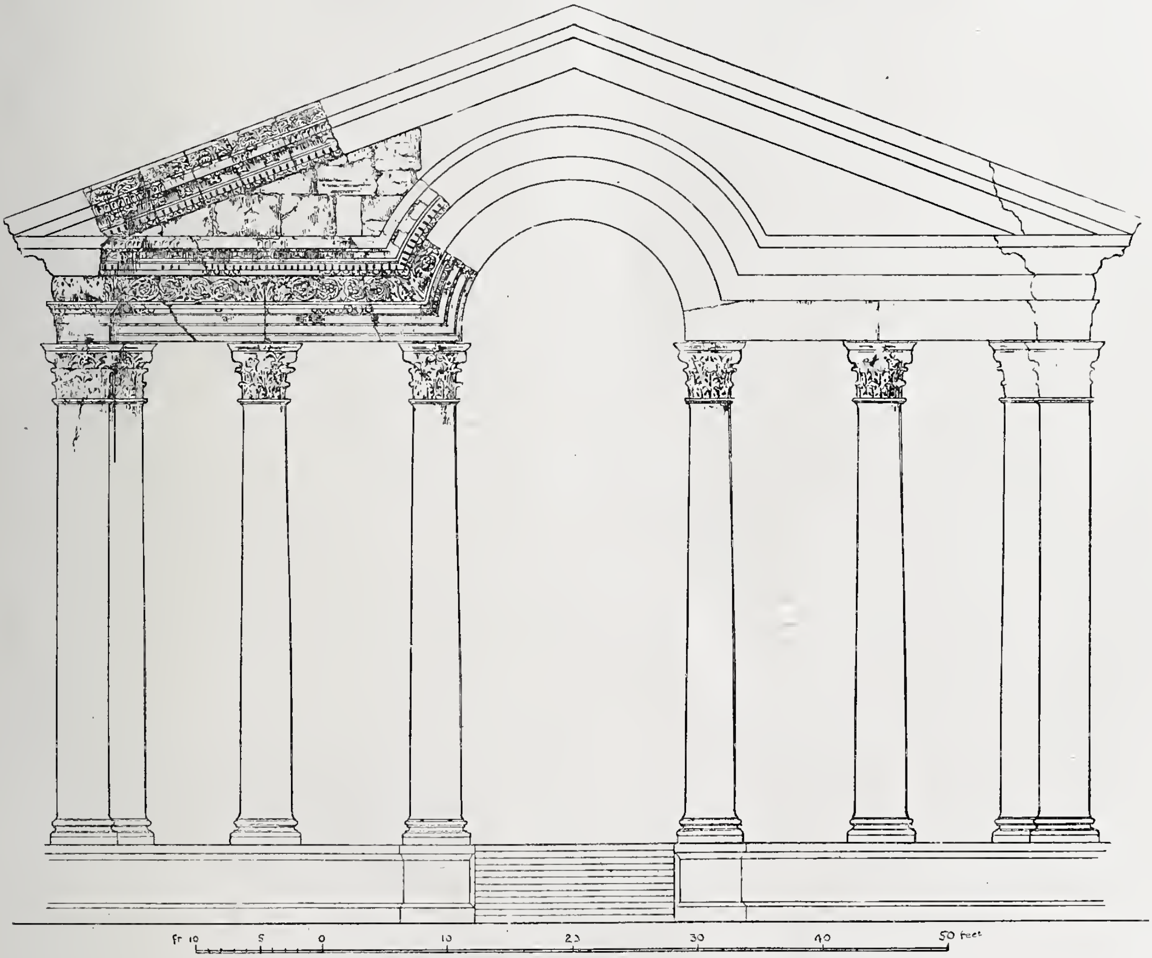

FIG. 16.—THE GREAT ARCHWAY. A PORTAL OF THE PALACE OF BERID.

magnificent archway to which I have already referred [fig. 16]. This is usually spoken of as the great entrance to the Mosque; but as it faces east, either it must have had a corresponding archway on the other side of the street, or it formed the chief entrance to a building of great importance on the west side. I am inclined to the latter belief, and for two reasons: first, it would account for the singular fact that the colonnade and archway were not built in the line of the central axis of the temenos; and secondly, because of the levels. From this great archway you descend several steps to the colonnade, and that does not seem a dignified approach to the temenos or temple. This opinion is further confirmed by a statement in Porter's book, who says, in the MS. called Fudayel Esh-Sham, written by Mohammed El-Mâleky (A.D. 1056), it is stated: "On its western side stands a great building supported on massive columns, and on the eastern side is a similar one connected with the palace of the Princes of Damascus." Another author, Fakher Ed-Din (A.D. 1465), says: "On the east side of the great temple stood a palace called Jeirûn erected upon columns."

Let us, however, for a moment go to the eastern colonnade. This led to a still larger archway, already mentioned, which, to judge from the description given, was similar to that on the west side. Here, it is true, steps are found at the west gateway of the Mosque itself, but thirty-six steps are spoken of by the Arab writers, and there are not half that number now; and as Porter—if I read him rightly—found the base or lower portion of the shafts of the columns, the ground between must have been filled up since, and there was a flight of steps up to this eastern archway.

It seems to me, therefore, that these great archways were the entrances to palaces or monuments of some importance, built possibly on the foundations of the two castles said to have been erected by Ad for his two sons Jairûn and Berid, and the names now are transferred to the actual porticos of the Mosque. Running north of this eastern archway, Mr. Porter traced a colonnade 300 feet long, when it returned and ran west till in a line with the western archway, and then continued south to it. This has been thought by some persons to be a greater temenos outside the other; but it more probably marked the line of an important street, and consisted of a double colonnade, which may have been continued to the castle, and thus formed important approaches to the two palaces. Some way to the south of the Mosque, and between the east and west gates of the town, ran another important street, the *via recta* already mentioned, 1,600 feet long and 90 feet wide, with a colonnade of three avenues similar to those of Gerasa and Palmyra. The account which I have given of Ibn-Jubair, descriptive of these colonnades, showing how they were utilised, enables us to follow the use of this greater colonnade, except, perhaps, that in this case the side columns gave an architectural character to the shop-fronts. At Palmyra, where there were four rows of columns, the side ones were covered over. The single row of columns above mentioned (to the north of the Mosque), therefore, may, like those on the east and west sides of the Mosque, have been a double one.

This brings me now to the temple in the centre, the plan of which is very difficult to work out. The great doorway, with its side doorways or niches,* faces south. This is not the correct Roman orientation; † the two great temples of Baalbec run east and west. It is true that the great temples of Palmyra run north and south; but then Dawkins and Wood point out that the principal doorway was on the north side, in a line with the great entrance portico of its temenos, which was surrounded by a wall of enclosure. Porter's plan does not show a portico in the south colonnade opposite the great doorway; the columns on this side are inserted between the existing piers at the extreme ends east and west.

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* Since the reading of this Paper I have received a letter from Dr. Masterman, of Damascus, stating that he has been able to obtain access through the shop built against this south wall, and has discovered that the *features in question are niches*, and have never been cut through (see p. 34). The great doorway, however, is not correctly placed: it comes under the easternmost window of the south transept. The fire has also laid bare the western wall, and exposed pilasters of Syrio-Greek work throughout its length. Revised illustrations will follow in a future number.

† El-Mâleky (A.D. 1056) says: "It is stated that the Mosque was formerly a heathen temple erected by the Greeks, who worshipped the seven stars and prayed towards the north."

The irregularity, however, of the axes of the temple, compared with the regularity of the setting out of the great transept of the Mosque, has confirmed me in the belief (contrary to that expressed by Mr. Lethaby in an article contributed to *The Builder* of 17th March 1894) that Theodosius contented himself with transforming the temple into a church, and that Arcadius restored this structure, embellished it, and perhaps added to its length. So that when the Moslems conquered Damascus it was long enough to be divided into two portions, the eastern portion going, according to Ibn-Jubair, by conquest into the hands of the Moslems, and the western portion remaining to the Christians, both of them entering by the same doorway, viz., that of the south gate, which was, according to Mr. G. Le Strange, the gate of entrance used by Moslems and Christians alike, till the time of Al Walid's rebuilding of the Mosque.

The descriptions given by the various Arab authors all agree in their statements that the Mosque as it now stands was entirely built by Al Walid; and if any further evidence were required it would be in the masonry itself, which, on the north and south front, is all of the same character and style. The stone courses are continuous throughout, and the only straight joints are those at the extreme east and west, where the Mosque joins the two more ancient towers. The flat roof described as existing on the east and west wings by Mukaddasi in 985, and by Ibn-Jubair in 1184, disposes also of the objection raised by Mr. Lethaby in the walling-up of the east and west windows of transept by the high-pitched roofs placed there in the fifteenth century.

There are many instances known of Roman temples being converted into churches, and this is specially the case in Syria. M. Texier, in his work on Byzantine architecture, says :—"Almost all the temples of which remains have been found in the valleys of Mount Lebanon bear evident traces of the occupation of Christians. The temples of Baalbec were converted into churches, and those edifices which were not suitable for churches on account of their position were demolished and their materials employed in the erection of new buildings." In fact it is well known—and this is particularly the case at Athens—that the conversion of the temples into churches has preserved them more or less to our own day.

I should not like to close this Paper without expressing my thanks to Miss Rogers, the sister of the former Consul at Damascus, for the loan of the panorama and other photographs of Damascus; to Dr. Wright, of the British and Foreign Bible Society, for his photographs of the Mosque taken after the fire, which have enabled me to set up my sections of the Mosque and to unravel part of its history; to Professor Hayter Lewis, for the loan of Mr. Guy Le Strange's translations and for valuable notes; to Mr. Carl Haag, for a most accurate drawing of the great archway, made in 1859; and, lastly, to Mr. Lethaby, whose controversy in *The Builder* in 1894 led to my taking up the subject in further detail.

DISCUSSION OF MR. SPIERS'S PAPER.

The President, Professor Aitchison, A.R.A., in the Chair.

Mr. HOLMAN HUNT, in proposing a vote of thanks to the author of the Paper, said he could contribute nothing of interest after the account Mr. Spiers had given of this most interesting building. Although he had visited Damascus, and had been there at a most interesting period, namely, in 1854, it was at a time when it was impossible to make any observations, and he could only look with longing eyes upon the exterior. He had always retained a desire to know more about the building, and had listened with great interest to the information Mr. Spiers had given about it in bygone days, and of the remains that existed at the present day.

Colonel C. M. WATSON, C.M.G., R.E., in seconding the vote of thanks, said they must all feel greatly indebted to Mr. Spiers for his interesting account of the Mosque. There were one or two points in the Paper to which he should like to allude. He entirely agreed that the Khalif al Walid did destroy the greater part of the ancient buildings. Any one who had visited the Mosque and examined the buildings as they now existed must feel convinced that Al Walid gutted the whole of it; and though he used the old pillars and much of the old material he left little of the original structure standing. He seemed to have utilised the south wall—probably utilised the foundations of the wall for its whole length, and fortunately he left the piece containing the beautiful doorway described in the Paper. Mr. Spiers appeared to have an idea that it might have been the principal entrance of the old temple. He (Colonel Watson) spoke with great diffidence, but he could not help thinking it more likely that the old temple was oriented east and west, and that the present western entrance of the Mosque was on the site, if not on the foundations, of the old temple. There was another point upon which he differed from the author of the Paper. Mr. Spiers seemed to think that the boundary of the ancient temenos was probably on the line of colonnade that ran to the south of the Silversmiths' Bazaar, and on the present north wall of the Mosque. It was more likely, he thought, that the south side of the temenos was on the colonnade to the south of the Silversmiths' Bazaar; but that the north side was on the line of the colonnade which ran north, as described by Mr. Porter, at right angles to the great eastern colonnade. It was a curious thing—it might be a coincidence—but if the length of a cubit was taken as a foot and a half—and he thought it likely that they used the cubit in laying out the ancient temple—it would be found that the south colonnade was as nearly as possible one hundred cubits from the south wall; that from the south to the north wall was about two hundred cubits, and then it was another hundred cubits to the north colonnade. It might be a coincidence, but if so it was a very curious coincidence, and it seemed to him more likely that the east and west gates were on the axis of the old temple, and that the north and south outer colonnades were on the line of the ancient north and south temenos; while the inner wall, which formed the outer wall of the present Mosque, was the inner inclosure of the old temple. Outside at present there were some buildings, but that was not the true wall of the Mosque. The true wall of the Mosque followed this line. The plan showed clearly enough what he meant to express: that along the western colonnade to what must have been originally the great entrance into the temenos the length was about three hundred feet. They all knew how eastern temples were generally built, with a great inclosure round them, and in the centre—generally on the east side—there was in the case of the Egyptian temples a pylon, but in any case it was the entrance to the temple. Then they went on from one inclosure into another, always keeping in thes ame direction; and he was inclined to think that was the case with the great Temple of Damascus. It was no doubt on a very old foundation. Mr. Spiers had only brought them back as far as the Romans, but it must be remembered that Damascus dated back to the time of Abraham. No doubt there were great temples there at that time, and probably the present Mosque was on the site of one of the very ancient temples of Damascus.

Mr. HENRY C. KAY said that Mr. Spiers had left very little to be added to his very interesting Paper. There were one or two little points, however, perhaps of small importance comparatively, but which might be found of some interest, and he should like to say a few words upon them. Among the travellers, geographers, and other writers who had written on the subject of Damascus was the Moorish traveller of the 14th century, Ibn Batuta, who visited the Mosque of Damascus, and who had left an interesting description of the building as it then stood. He did not assume that there was anything of great importance in it; much, that is to say, that might not be known from other sources; but it was interesting, for instance, to gather from Ibn Batuta's description that in his day the general features, the general configuration, of the Mosque were very much what they were at the present day. Of course there had been changes. For instance, Ibn Batuta mentioned that the two minarets on the south-east and south-west corners of the Mosque were the old towers which he said were built by the Christians; a statement Mr. Spiers had confirmed in so far as he had told them that the bases of the existing two minarets were evidently ancient work. They were possibly—he himself had no opinion on the matter—even more ancient than the time of the Christian church. The minaret on the south-east side was the one generally known as the minaret of *Isa*, about which there was the tradition, perhaps not a very ancient one, to the effect that Christ would alight upon it on the last day. Ibn Batuta mentions it, but he connects the saying, not with the minaret, but with a tower near the eastern gate of the city. The other minaret on the south-west side had an inscription he remembered reading, when he visited the Mosque about twenty years ago, and which distinctly stated that the minaret was built by the Mamluk Sultan Kait Bay at the end of the 15th century. [The date was A.H. 893, corresponding with A.D. 1488.] Then on the north there was the old minaret, built by Al Walid, which still existed, and dated from the early part of the eighth century. It was built according to the old plan, common in those days—a square tower rising square from top to bottom. That type was general in the early days of Islam. It was carried by the Arabs to Barbary, where it still prevailed at the present day. It was also carried by the Arabs into Spain, and the Giralda of Seville was an example of it. In Egypt a different type of minaret was adopted, and the question had arisen, Whence was it derived? An answer had been given which he might perhaps venture to say deserved to be looked upon as something more than a conjecture. To explain it he must refer to that famous building, the Pharos of Alexandria. The Pharos existed until the beginning of the 14th century—no doubt in a very dilapidated state, but still it was there, and had been described by several Arab writers. They recorded that the Pharos had been built in three storeys: the lower one was square, the next was octangular, of a less diameter than the lower one, and it had a gallery and balustrade running round its base. The top storey was round, again of smaller diameter. A drawing upon those indications, however rough, would show a type of building bearing a wonderfully close resemblance to that of the Egyptian minaret, of which the south-west minaret in the Mosque of Damascus might serve as an example. It would be remembered that although the Mamluk Sultans had their seat at Cairo, Syria formed part of their empire. One other point. When he visited Damascus twenty years ago there was a slab on one of the piers of the "transept," he was afraid destroyed now, but which contained a Cufic inscription mentioning that the *Maksura* (that is to say, the innermost part of a mosque, which might be said to correspond with the chancel of a Christian church) had been restored and redecorated by a high official in the days of Taj ad-Daulah Tutush, and of his brother Malik Shah. The precise date was given, in the 11th century, about a dozen years after the fire mentioned by Mr. Spiers; A.D. 1082 would therefore be the date of that restoration [A.H. 475 corresponding with A.D. 1082-3].

Colonel LENOX PRENDERGAST [*H.A.*] said he should like to ask Mr. Spiers if he could tell them anything of the original history of the shrine of St. John in the Mosque. It was a very remarkable thing that in a mosque for centuries after it had been a Christian church, the shrine of the saint should still be in existence, or at any rate marking the spot of sepulture without any kind of doubt. His object in asking the question was this, that the description given by Mr. Spiers showed the situation of the Roman work, and where the different periods of the Moslem work came in; but it had been conclusively shown by Colonel Watson that the Christian church had been abolished, and that, he fancied, must be Mr. Spiers's view as well. His only object in alluding to the shrine of St. John was for the purpose of determining the site of the ancient Christian church, for only within comparatively recent times had churches been built without some reason. The ancient churches were nearly always built for the purpose of doing honour to the remains of some Christian saint, or to mark some sacred spot. Given that the south wall of the Mosque was originally a wall of the church, and the only remaining part of it, the shrine of St. John being there, what would probably be the conclusion arrived at? He could not help feeling that that was the original spot where John the Baptist's relics were enshrined, and that it was the central point of the Christian church, near the high altar. He should think, though he had no grounds for saying so, that the arcade, between two columns of which the shrine stood, was entirely put up by the Moslems, and that the north wall of the Christian church stood at the same distance from the shrine on that side that the existing south wall did from the sacred spot, which until the recent fire was treated with all the reverence that costly adornment and the burning of lights could give to it. Mr. Spiers had scarcely mentioned anything about that, but it seemed to him that that gave them some kind of clue as to the original position of the north wall of the Christian church.

The PRESIDENT observed that people were rather apt to fancy that the savages who came out of Arabia brought some architecture with them. But almost every building done for several centuries was the work of men brought from the civilised countries the barbarians had overrun but had not desolated. In Mohammed's days the people of Mecca were absolutely ignorant of building, though he believed they could build a plain stone wall. When Mohammed was about twenty-one, the Kaaba was washed down, and the people of Mecca managed to build up the walls of that hypæthral temple themselves. They were, however, anxious to have it roofed, but there was apparently no one at Mecca who understood so simple an art as roofing a building, and there being a vessel wrecked off the coast they applied to the shipwrecked captain. He informed them that he was a great architect himself, who had been obliged to take to the sea, and offered to roof the building for them if they would buy the timbers of the wreck; and he and his crew managed to put a roof over it. The Arabs could scarcely be considered at that time very clever architects, and it was doubtful whether they improved very much for a good many centuries afterwards. The date of the Hegira was 622, and the Mosque of Damascus was begun between 705 and 715, when Al Walid lived. Probably, therefore, it was not built by an Arab. This Caliph had war with the Roman Emperor at Constantinople, with Justinian II., Philip Bardanes, or Anastasius II., and the Saracens, he presumed, had got the best of it, and in their treaty with him they inserted a clause that he should find the mosaics and the workers for decorating the

Mosque. In addition to that the Roman Emperor contributed, he believed, about £60,000: forty camel-loads of mosaics and a hundred Byzantine masons. There were many curious things about the old Mosque, as shown by Mr. Spiers; it was partly temple, partly Christian church, and partly mosque. The portions of the old Roman temple show that it was very late. It looked to be about the time of Diocletian, and the new mosque, except the bell towers, reminded one very strongly of Diocletian's villa or palace at Spalato. These extraordinary savages were possessed of tremendous energy, and, up to a certain point, the capacity for learning; and they were poets before they emerged from Arabia. The Caliph Omar said, when Damascus was taken, "his people were as fond of fighting as the Christians were of swilling wine and eating hog's flesh." As they got a little more settled down, and a little more civilised, they absorbed a great deal of the learning of the ancients, their taste for geometry and mathematics being a passion, and they gradually progressed until they became the most civilised people in the world, and gave a new phase to architecture. However, that must have been much later than most people believed: though Abd el Rahman, the last of the Omeiyades, who was not so long after Al Walid, for he died in 787, was said to have drawn some of the ornament for his celebrated mosque at Cordova. The whole subject was extremely interesting as to where and how many of these things came about. The early Arab idea of a mosque seemed simply to have been a shelter. Mohammed's Mosque at Medina was a wooden shanty with the supports of palm tree covered with boards, and no doubt the original mosque of Amru at Cairo, as well as Omar's at Jerusalem, that so much was heard about, were of the same sort. People often talked of the architecture of the Mosque of Amru, as if information could be got from that. The original and subsequent ones were burnt down, and nobody knew the date of the one that now exists. Most of the early mosques were, he believed, built in the same way. Until the Arabs, or some of their subjects, had learnt how to build in stone or brick and to vault, the mosques must have often been burnt down. Arabic had been very little studied, and the records of the Arabian writers were very slightly known even among the most civilised of the nations of the West; and were it not for P. Coste's, Jules Bourgoin's, and Prisse d'Avennes' works little would be known of Arab architecture.

Mr. R. PHENÈ SPIERS [*F.*], F.S.A., in acknowledging the vote of thanks, said that the question of the precise position of the Roman temple raised by Colonel Watson was too long a subject to go into then. He was obliged to Mr. Kay for the two or three quotations he had given. It was in this way that one sometimes obtained information from other authorities. He had said very little as regards the tomb of John the Baptist, because, though a most interesting subject, it had nothing to do with his argument. A cave was said to have existed in which the head of John the Baptist was buried, and there was a record in one of the Arab writers referring to the fact that the cave was opened in the presence of Al Walid himself, and the head of St. John was found in a chest. It was carefully closed up again and placed under one of the pillars in the Mosque. There was invariably a fancy amongst writers for placing such relics under pillars, which was the last place in which an architect would put anything of the kind. The body of St. Mark was said to have been buried under one of the piers of the church; but there was no doubt that at Damascus the Arab writer referred to some place between the third and fourth columns where the head of John the Baptist is probably still buried, and the shrine put over it had been renewed at various times, because St. John was looked upon as a saint by the Moslems. The richness of the Mosque was a subject which one might enter into in great detail. The whole of the revenues of Syria for seven years were spent on its decoration. Twelve hundred workmen were brought from Byzantium to design and decorate it, because, as the President had said, the Mohammedans at first had no knowledge of architecture themselves, but employed Copts, Armenians, and others; so that there was no doubt it was entirely built and constructed by Byzantine workmen and artists from India and Persia. But the sum spent upon it must have been stupendous, and the real reason was suggested by different authors, namely, that it should be a rival to the Church of the Holy Sepulchre at Jerusalem, which they thought would attract people more than a plain, simple mosque. As the President had remarked, their buildings at first were of the simplest kind. But as time went on, when they found themselves among other nations where splendid churches were being built, they found that it was necessary to try and rival them by building similar structures, and that accounted for the extraordinary richness of the Damascus building, as described by the Moslem authors.

The following notes have been received from Mr. Spiers since the date of the Meeting:—

In answer to Colonel Prendergast's inquiry, the early tradition among the Arab writers is that the buildings on the site of the Mosque were built by the ancient Sabæans. After them it came into the hands of the Greeks (the Pagan Greeks); from them it passed to the Jews and the kings, who were idolaters. "In their day was slain John the son of Zacharias, and they set up his head above the gate of the mosque which is called the Bâb Jeirûn. And after this the Christians conquered the city, and in their hands it became a church, wherein they were wont to worship." The next reference is from Ibn Fakih. " Of Zaid ibn Wâkid it is related that the Khalif al Walid made him overseer for the building of the Mosque of Damascus ; and he discovered there a cave, the fact of which was made known to Al Walid. By night the Khalif descended thereinto, and behold it was a beautiful chapel, three ells long, by the like across, and within lay a chest inside of which was a basket, on which was written, '*This is the head of John, the son of Zacharias.*' And after they had examined it, Al Walid commanded that it should be placed under a certain pillar in the Mosque that he indicated. So it was placed beneath this pillar, which is now inlaid with marble, and it is the fourth of those on the eastern side, and is known as Amûd-as-Sakasik (the Pillar of Humility). At the time the head was laid here, Zaid, aforesaid, states that he saw the same, and that the hair and flesh thereon had nowise suffered decay." The magnificent cenotaph raised over this cave, and between the third and fourth columns to the east of the transept, was completely destroyed in the last fire. It was probably of late sixteenth-century work. The capitals (of the columns) above this shrine look like fifteenth-century work, and this suggests that a structure of some kind existed there prior to 1400, which was consumed by fire in that year.

Mr. Spiers further writes that Mr. H. C. Kay has been kind enough to furnish him with (*a*) the following translation from Ibn al Athir, vol. x. p. 40, giving a description of the destruction by fire of the Mosque in 1069:—

> In the month of Sha'bān of the year 461 (say May A.D. 1069) the Mosque of Damascus was burnt. The fire was the consequence of a fight that occurred in the city between the North African inhabitants, friends of the Egyptians, and the Easterns. They set fire to a house adjoining the Mosque, and the flames spread to the latter. The common people of the city were aiding the North Africans, but they now abandoned the fight, and exerted themselves to extinguish the fire in the Mosque. [But] the case increased in gravity and became very grievous. The flames gained possession of the Mosque. Its beauties were destroyed and its priceless examples of workmanship ceased to exist.

(*b*) The translation of a Cufic inscription which Mr. Kay deciphered on one of the piers of the transept, commencing with a verse of the Korān, and stating that the construction of the Maksûra (the south transept at Damascus) and the decoration with marble of the face of the walls were ordered in the days of the Khalif Muktadi, under the reign of Sultan Malik Shah, and in the days of his brother Taj-at-dunlah Tutush by Abn Nast Ahmad ibn al Fadh, who defrayed the cost out of his personal property, hoping for a reward from God, in the year 475 A.H. (1082 A.D.)

(*c*) The record of an inscription on the minaret in the south-west angle (Madinet el Ghûrbiyeh) that it was built by the Mamluk Sultan Kait Bey (A.H. 872–901): it is dated A.H. 893 (A.D. 1483).

Mr. Spiers also quotes the following passage from a letter he has received from Sir Charles Wilson :—"The only point on which I do not quite agree with you is the extent to which Al Walid destroyed the church. I do not think he made a clean sweep of everything, re-using the material, but believe many of the columns in the western half were, before the fire, in their original position. My plan was made 20th and 21st December 1865. The original has, I believe, been lost. Was not the wood of roof chestnut and not cedar ? Chestnut and spiders do not agree."

9, CONDUIT STREET, LONDON, W., *3rd December* 1896.

CHRONICLE.

THE NOVEMBER EXAMINATIONS.

The Preliminary : Newly Registered Probationers.

At the General Meeting of Monday, the 30th ult., it was announced that a Preliminary Examination had been held in London and Manchester on the 10th and 11th ult., when sixty-five candidates were examined. Of these, forty-one passed, eighteen were relegated to their studies, and six failed. The results of the Examinations in each district are shown in the following table :—

	Exam'ned	Passed	Relegated	Failed
London . . .	45 .	27 .	14 .	4
Manchester . .	20 .	14 .	4 .	2
	65	41	18	6

The names and addresses, with other particulars, of the forty-one who have passed, and of twenty-seven exempted applicants—making a total of sixty-eight newly registered *Probationers*—are here given in alphabetical order :—

ARMSTRONG : Roy Webb ; Thorncliffe, Hartington Road, Buxton, Derbyshire [Collegiate School, St. Anne's on the Sea].

BEAUMONT : Sidney ; 36, Mary Road, Roath, Cardiff [*Masters* : Messrs. Habershon & Fawckner].

BESANT : Ernest George ; 4, Harvey Road, Cambridge [*Master* : Mr. W. M. Fawcett *].

BEVIR : John ; 65, Rectory Grove, Clapham, S.W. [*Master* : Mr. Arthur G. Spencer].

BINNS : Lester ; 87, Albany Road, Roath, Cardiff [*Masters* : Messrs. Habershon & Fawckner].

BRANDER : Alexander Gordon ; 7, Yew Grove, Cricklewood, N.W. [*Master* : Mr. George Hornblower *].

BROOK-GREAVES : Richard Brook ; Rock House, Ecclesfield [*Masters* : Messrs. Flockton,* Gibbs,* & Flockton *].

BULLOCK : Walter Henry ; 40, Belvidere Street, Aberdeen [*Masters* : Messrs. W. & J. Smith and Kelly.]

CHAPMAN : Henry, jun. ; Seacroft, Westoe, South Shields [*Master* : Mr. Henry Grieves *].

CHILDS : Charles Michael ; 85, Albert Street, Regent's Park, N.W. [*Master* : Mr. E. W. Wimperis *].

CLAPHAM : Richard ; 15, Park Row, Leeds [*Masters* : Messrs. Chorley * & Connon *].

COBURN : George Scott ; Harbour View, Roker, Sunderland [*Master* : Mr. J. Wardle Donald *].

COOK : James Charles ; 53, Shore Street, Inverness [*Masters* : Messrs. Ross * & Macbeth].

CORFIELD : Frederick John ; 19, Savile Row, W. [Westminster School].

COWELL : Wilfrid Lee ; 5, Unthanks Terrace, Norwich [*Master* : Mr. A. F. Scott].

CRESSWELL : Harold ; 141, Rosebery Square, E.C. [*Master* : Mr. J. J. Cresswell *].

CROSSLEY : Percival Child ; Moorside, Halifax, Yorks. [*Master* : Mr. John Ely *].

DAVENPORT : Herbert ; Redcot, Ashley Road, Hale, Cheshire [*Masters* : Messrs. Whitelegg & Whittaker].

DIXON : Ernest John ; 23, Idmiston Road, Stratford, E. [*Master* : Mr. G. T. Hine *].

FARRER : Percival Inglis ; 16, Devonshire Place, Portland Place, W. [*Master* : Mr. F. W. Porter *].

FODEN : Edward ; c/o Messrs. Royle & Bennett, 17, Cooper Street, Manchester [*Masters* : Messrs. Royle * & Bennett *].

FRY : Reginald Cuthbert ; Edgcumbe, 57, Wickham Road, Brockley, S.E. [*Master* : Mr. Frederic Hammond *].

GROVE : John Wornum ; Kingswood, Reigate, Surrey [*Master* : Mr. T. R. Hooper *].

HACKETT : John Josephus ; High Street, Saltley, Birmingham [*Master* : Mr. S. J. Halliday].

HALL : Charles Arthur ; Holly Bank, Birkenshaw, near Leeds [*Masters* : Messrs. Empsall & Clarkson].

HEATHCOTE : Ernest Grigg ; 6, Princess Street, Manchester [*Master* : Mr. C. H. Heathcote *].

HEMINGWAY : Ralph Eustace ; 1, Brunel Terrace, Derby Road, Nottingham [*Master* : Mr. A. N. Bromley *].

HINDMARSH : William Robson, jun. ; 22, Bondgate Without, Alnwick [*Master* : Mr. George Reavell].

HORNE : David Edmund Attree ; 25, Offley Road, Brixton S.W. [*Master* : Mr. G. T. Hine *].

HOWORTH : William Henry, jun. ; Old Bank Chambers, Cleckheaton [*Master* : Mr. W. H. Howorth].

ILLINGWORTH : Edward Percival ; 8, Briggs Villas, Queensbury, near Bradford [*Masters* : Messrs. Isitt, Adkin, & Hill *].

LEE : Leonard ; 9, Hillmarton Road, Holloway, N. [*Master* : Mr. E. W. Wimperis *].

LONGLEY : Roland Robert ; Blythswood, Victoria Road, Barnsley [*Master* : Mr. J. P. Kay].

MARSHALL : John William ; 19, Rutland Street, Nottingham [*Master* : Mr. J. Howitt *].

MELLISH : James Hugh ; Lydney House, Coleraine Road, Westcombe Park, S.E. [*Master* : Mr. Frank B. Mayo, M.A.].

METTHAM : John Arthur ; 6, London Road, Grantham [*Master* : Mr. C. W. Smith].

MOORHOUSE : Geoffrey Goodwin ; Sunnyside, Freshfield, near Liverpool [*Masters* : Messrs. Goodison, Atkinson, & Forde].

MORRIS : James, jun. ; Clunie House, Dunfermline [*Master* : Mr. A. Scobie].

NORMAN : George Henry ; 72, Southwark Bridge Road [*Master* : Mr. J. Henry Ball *].

PALMER : Bertram Henry ; 5, Bedford Circus, Exeter [*Master* : Mr. James Jerman *].

PEAKE : Frank ; The Hollies, Atherton, near Manchester [*Masters* : Messrs. Bradshaw * & Gass *].

PERKS : Charles ; 34, Shooter's Hill Road, Blackheath, S.E. [*Master* : Mr. C. W. Reeves *].

PLATT : Frederick Walter, B.A.Cantab. ; 1, Cumberland Terrace, Regent's Park, N.W. [*Masters* : Messrs. F. W. Porter * & Son *].

POOLE : William Harold ; Knottingley, Bower Mount Road, Maidstone [*Master* : Mr. Hubert Bensted *].

REILLY : Charles Herbert ; 23, St. Swithin's Lane, E.C. [*Master* : Mr. C. Reilly *].

RICHARDS : Francis Augustus ; 44, Elm Park Road, S.W. [*Master* : Mr. C. J. Harold Cooper].

SEED : William Harold ; 216, Blackburn Road, Bolton, Lancs. [*Master* : Mr. R. Knill Freeman *].

SHAW : Malcolm Graham ; 157, Stricklandgate, Kendal [*Master* : Mr. Stephen Shaw *].

SMITH: Harold Bayldon; 22, Westminster Terrace, Glasgow [*Masters*: Messrs. H. B. W. Steel & Balfour].
SMITH: Spencer; Lawson Road, Sheffield [*Master*: Mr. A. F. Watson *].
STEAD: Ernest George; 29, Princess Street, Manchester [*Master*: Mr. E. G. Stead].
STEEL: William Peter; Kingswood, High View Road, Sidcup, Kent [*Master*: Mr. Geo. McDonell *].
STEPHENSON: George James; 2, Florence Street, Deans, South Shields [*Master*: Mr. Benjamin F. Simpson *].
STRACHAN: Charles John; 12, Fellows Road, South Hampstead, N.W. [*Master*: Mr. Henry S. Legg *].
STUART: John; 129, Camden Street, Camden Town, N.W. [*Master*: Mr. Paxton H. Watson *].
SWINNERTON: Joseph Ellams; 108, Warbreck Moor, Aintree, Liverpool [*Master*: Mr. John Clarke *].
TAYLOR: Alfred John; 8, New Bond Street, Bath [*Master*: Mr. Charles E. Davis].
TURNER: Hamilton Hall; 73, Splott Road, Cardiff [*Masters*: Messrs. Habershon & Fawckner].
WATSON: William Harold; The Gables, Wakefield [*Master*: Mr. William Watson].
WATSON: William Pilkington; Brinklow Rectory, Coventry [Uppingham School].
WHEELER: Sidney; 57, Ladbroke Road, Notting Hill Gate, W. [*Master*: Mr. John Theodore Carew].
WHITE: Charles Herbert; 80, York Road, Montpelier, Bristol [*Masters*: Messrs. Henry Crisp & Oatley].
WICKSTEED: Archie Frederic; Caerleon, Farquharson Road, Croydon [*Master*: Mr. E. A. Gruning *].
WILLIAMSON: Arthur; 13, Coupar Street, Logie Fens, Lochee [*Master*: Mr. James H. Langlands].
WOODROOFE: Arnott; Wesley Villa, Bodari, Trefnant, R.S.O. [*Master*: Mr. R. Lloyd Williams *].
WRIGLEY: Willie; 41, Northgate, Wakefield [*Master*: Mr. William Watson].
WRINCH: Raymond Cyril; Hill Crest, Ipswich [*Master*: Mr. E. F. Bisshopp].
YATES: Tom; 5 and 7, Queen Street, Leigh, Lancashire [*Master*: J. C. Prestwich].

The asterisk * denotes members of the Institute.

Of the eighteen relegated candidates, eight failed in two subjects, three in three subjects, two in four subjects, one in six subjects, and four in all subjects.

The Intermediate: Newly Registered Students.

At the same Meeting it was announced that an Intermediate Examination had been held in London and Manchester on the 10th, 11th, 12th, and 13th ult., when of the fifty-eight candidates who were examined, thirty-four passed, and twenty-four were relegated to their studies. The results in each district were as follow:—

	Examined	Passed	Relegated
London	49	26	23
Manchester	9	8	1
	58	34	24

The names, &c., of the newly registered *Students*, placed by the Board in order of merit, are as follow:—

SHORT: Ernest William George [*Probationer* 1893]; Beaconsfield, Siddons Road, Forest Hill, S.E. [*Master*: Mr. G. T. Hine *].
ANDERSON: Henry Lennox [*Probationer* 1894]; 6, Stratton Street, W. [*Master*: Mr. J. Macvicar Anderson *].
OWEN: Reginald Wynn [*Probationer* 1894]; Rock House, Menai Bridge [*Master*: Mr. P. Shearson Gregory].
HOBSON: Laurence [*Probationer* 1893]; Lyndhurst, Hale Road, Liscard [*Master*: Mr. Henry Hartley *].
BALL: William John [*Probationer* 1895]; 17, Wellfield Street, Warrington [*Master*: Mr. C. B. Aylward].
WALKER: John George [*Probationer* 1894]; College Grove, Wakefield [*Masters*: Messrs. Simpson & Richardson].
WARMAN: Percy John [*Probationer* 1894]; 99, Hawthorn Road, Kettering, Northants [*Master*: Mr. J. Alfred Gotch *].
WHEELER: Edwin Paul [*Probationer* 1893]; 69, Cecil Road, Upton Manor, Plaistow, Essex [*Master*: Mr. C. J. Dawson *].
BAINES: John Cecil [*Probationer* 1894]; 31, Upper Tichborne Street, Leicester [*Masters*: Messrs. Draper & Walters].
PHILLIPS: John Henry Arthur [*Probationer* 1894]; Bridge House, Leighton Buzzard [*Masters*: Messrs. Hesketh * & Stokes *].
HIORNS: Frederick Robert [*Probationer* 1895]; Viewfield House, Pasley Street, Devonport [*Masters*: Messrs. Hine * & Odgers].
TANNER: Henry, jun. [*Probationer* 1895]; Rothbury, Brackley Road, Beckenham, Kent [*Master*: Mr. Henry Tanner *].
ROBINSON: Thomas Henson [*Probationer* 1895]; Home Cottage, Crabtree, Pitsmoor, Sheffield [*Masters*: Messrs. Flockton,* Gibbs,* & Flockton *].
BELL: Arthur Edward [*Probationer* 1895]; Normanby House, South Park, Lincoln [*Master*: Mr. W. Watkins *].
BATHURST: Nevile Charles [*Probationer* 1893]; Ingoldsthorpe, Bromley, Kent [*Master*: Mr. W. Gillbee Scott *].
EMERSON: William Ernest [*Probationer* 1895]; 36, Nevern Square, S.W. [*Master*: Mr. William Emerson *].
GITTINGS: Henry [*Probationer* 1893]; The Elms, Gillingham, Kent [*Master*: Mr. G. E. Bond].
CRAIK: David McLeod [*Probationer* 1893]; 8, Graham Street, Edinburgh [*Masters*: Messrs. George Beattie & Son].
BENNETT: Thomas Percy [*Probationer* 1890]; Oakleigh, Prestwich Park, near Manchester [*Masters*: Messrs. Royle * & Bennett *].
BETENSON: Frederick Roger [*Probationer* 1891]; 26, Caversham Road, N.W. [*Master*: Mr. Rowland Plumbe *].
CHATWIN: Philip Boughton [*Probationer* 1891]; 61, Margaret Street, Cavendish Square [*Master*: Mr. J. A. Chatwin *].
COX: Arthur Stanley [*Probationer* 1894]; Sonning, near Reading, Berks [*Master*: Mr. William Galt Millar].
GROOM: Percy John [*Probationer* 1893]; 7, Ridge Road, Hornsey, N. [*Master*: Mr. John Groom *].
GROOME: Arthur Reginald [*Probationer* 1893]; Alder Bank, Chorlton-cum-Hardy, nr. Manchester [*Master*: Mr. F. W. Mee *].
HOLDEN: Orton [*Probationer* 1893]; 64, Cross Street, Manchester [*Master*: Mr. John Holden *].
MACALISTER: Robert Alexander Stewart, M.A.Cantab. [*Probationer* 1895]; 2, Gordon Street, W.C. [*Master*: Mr. A. S. Flower,* M.A.]
MACINTOSH: Hugh [*Probationer* 1891]; 10, The Pavement, Clapham Common, S.W. [*Master*: Mr. W. H. Harrison *].
PATRICK: John Russell [*Probationer* 1893]; 116, Osbaldeston Road, Stamford Hill, N. [*Master*: Mr. H. Huntly-Gordon *].
ROWELL: Reginald Bertie [*Probationer* 1893]; 3, Duke Street, Reading [*Masters*: Messrs. Charles Smith * & Son *].
ROYLE: William Alfred, jun. [*Probationer* 1891]; Sparttifield, Heaton Norris [*Masters*: Messrs. Royle * & Bennett *].

SIMM: Ernest [*Probationer* 1893]; New Chapel House, Balderstone, near Blackburn [*Masters*: Messrs. Stones* & Gradwell].
THOMAS: Christopher Boswood [*Probationer* 1894]; Rose Villa, Norbins Road, Glastonbury [*Master*: Mr. Joseph Spire].
TUCKER: Walter Stephen [*Probationer* 1895]; 7, Radnor Terrace, Glasgow [*Masters*: Messrs. James Salmon & Son*].
WOOD: Lindsay Ingleby [*Probationer* 1894]; 39, Delancey Street, N.W. [*Master*: Mr. C. F. Doll].

The asterisk * denotes members of the Institute.

Of the twenty-four relegated candidates, five failed in two subjects, four in three subjects, five in four subjects, seven in five subjects, two in seven subjects, and one in eight subjects.

The Testimonies of Study executed by Mr. H. L. Anderson for admission to the Intermediate Examination have been selected by the Board of Examiners for exhibition with the Institute Prize Drawings of 1896–97 in London and the Provinces.

The Final: Qualifying for Candidature as Associate.

It was also announced at the before-mentioned meeting that a Final and Special Examination had been held in London on the 20th, 21st, 23rd, 24th, and 25th ult., when of the twenty-eight applicants examined, fourteen passed, and fourteen were relegated to their studies. The names and addresses of the fourteen who passed and are qualified (subject to Section 8 of the Charter) for candidature as *Associate* are as follow:—

AUSTIN: Rupert Claud [*Probationer* 1892, *Student* 1895]; Holme Lea, Waldron Road, Harrow-on-the-Hill.
BIRD: Herbert William [Hong Kong] [*Probationer* 1891]; 35, Castletown Road, West Kensington.
BOND: Alexander Godolphin, B.A.Oxon. [*Probationer* 1894, *Student* 1895]; 70, Gower Street, W.C.
CORBETT: Alfred Edward [*Probationer* 1891, *Student* 1892]; Colgate, Cavendish Road, Clapham Common, S.W.
DORMAN: Charles Henry [*Probationer* 1890, *Student* 1893]; 51, Abington Street, Northampton.
FISHER: Henry George; 27, Bow Lane, Cannon Street, E.C.
FRASER: Gilbert Wilson [*Probationer* 1890, *Student* 1892]; 34, Balliol Road, Bootle, Liverpool.
INNOCENT: Charles Frederick [*Probationer* 1889, *Student* 1894]; 18, Wellesley Road, Sheffield.
MOOTHAM: Delmé George [*Probationer* 1892, *Student* 1893]; 81, Guilford Street, Russell Square, W.C.
NELSON: Clement Osmund [*Probationer* 1891, *Student* 1894]; 12, Victoria Grove, W.
PALMER: Charles Samuel Fredrick [*Probationer* 1894, *Student* 1894], 2, Invicta Villa, Park Road, Sittingbourne, Kent.
PAYNE: Edward Harding; 28, John Street, Bedford Row. W.C.
PORTER: Hugh Thomas; 76, Santos Road, West Hill, Wandsworth, S.W.
REES: Stephen Powlson; 15, Rochester Road, N.W.

Of the fourteen candidates relegated, four failed in one subject, four in two subjects, one in three subjects, one in four subjects, one in five subjects, two in six subjects, and one in seven subjects. The following table shows the number of failures in each subject:—

I.	Design	13
II.	History	3
III.	Mouldings and Ornament	6
IV.	Sanitary Science	5
V.	Materials	1
VI.	Strength of Materials	2
VII.	Construction	3
VIII.	Specifications	5
IX.	Professional Practice	5

The Arthur Cates Prize for Testimonies of Study.

Particulars of the conditions attaching to the award of the Arthur Cates Prize for the best set of Testimonies of Study prepared for the Final Examination will be found in the last volume of the JOURNAL, p. 359, and in the current KALENDAR, p. 245. The Prize consists of Books to the value of ten guineas, and is to be awarded at each Final Examination until further notice to the *Student* whose Testimonies of Study, completed in accordance with the present programme, are considered to best merit the Prize, provided the candidate pass the Examination. The first award of the Prize has been made by the Council, on the recommendation of the Board of Examiners, to Mr. Charles Samuel Frederick Palmer, of Sittingbourne, Kent, one of the successful candidates in the November Final Examination. Mr. Palmer's Testimonies of Study, together with those submitted by Messrs. A. G. Bond and G. W. Fraser, will be exhibited with a selection of the Institute Prize Drawings of 1896–97 in London and the Provinces.

THE LATE WILLIAM H. WHITE.

Bequest of Books and Drawings.

The proceedings at the Special General Meeting held at the conclusion of the Ordinary Business Meeting of the 30th ult. were of exceptional interest. The Meeting was called for the purpose of inspecting the books and drawings presented to the Institute by Colonel White, in compliance with the express desire of his late brother, Mr. William H. White, the deeply lamented Secretary of the Royal Institute. The books, numbering over one hundred volumes—the major portion well bound and in good condition, and including some rare and valuable editions—form a very handsome collection. As will be seen below, a few of the rarer works were singled out by Mr. Graham for special mention, but the titles and descriptions of all will be duly announced among the Additions to the Library in a future *Supplement* to the JOURNAL.

Mr. Alex. Graham [*F.*], F.S.A., in introducing the collection to the notice of the Meeting, observed that it was the library of a student in architecture—a man who valued Vitruvius as much as he esteemed Viollet-Le-Duc. Among the collection would be found many books that were not in the Library. With regard to the copy of Vitruvius, there was another of the same edition in the Reference Library, but the White copy was in better condition. Then there was the work of Desgodetz, which was very complete in itself and a useful book for students. Also a copy of Serlio, the best edition, which Mr. White valued very highly; and it was hoped that some of their students who came up for examination would be good enough to refer to that valuable author, who was credited by French architects as being the chief exponent of Renaissance architecture in Italy. With regard to a valuable copy of Viollet-Le-Duc's *Dictionnaire*, it was decided to put that into the Loan Library. The volumes had already come before the Literature Standing Committee, who proposed to put the majority of them into the Loan Library in order to increase its value, and with a view to its extension for the benefit of their colleagues in the provinces, so that all reasonable demands might be promptly complied with. Those present who had not seen Mr. White's collection of books would do well to examine them, and see how his mind ran in the direction of architectural literature. He did not confine himself to one subject, for his ideas were cosmopolitan. His studies embraced the whole range of architecture of all periods, and his knowledge and, he might say, his diligence in ascertaining things for himself that he could not find out from books, gave him a high place as a student of architecture. Amongst his books would be found a good many that were already in the Library, but there were also a number of French books upon constructive architecture in France which were not in the Library, and which were works of great value. Their thanks were certainly due to Colonel White, his only brother and executor, for having so kindly allowed the Institute to select such books as they might desire. Those who had charge of the matter had endeavoured to make the selection most valuable to the Institute as at present constituted, as well as to those who came after them. The present, Mr. Graham continued, was a fitting opportunity for the Institute as a Body, quite apart from the action of the Council, to pass a vote of thanks to Colonel White for so generously complying with his brother's wishes.

The resources of the Institute were somewhat severely taxed to find hanging space in the Meeting-room for the large, varied, and exceedingly interesting collection of sketches, designs, and drawings—most of them included in the Bequest—some the work of the deceased in his early twenties, before he started practice in Paris, and others representative of his executed works as an architect, and of various competition designs. Mr. Flower's description of the drawings, a brief summary of which appears on preceding pages, met with an appreciative reception, and at its conclusion the following observations were made:—

Mr. H. Heathcote Statham [*F.*] proposed a vote of thanks to Mr. Flower for his Paper, which, although short, had, he knew, cost him a good deal of trouble to get up. Although the collection before them was not numerically great, yet the drawings were done within a short space of time; and the impression they created was that Mr. White, much as members valued his talents as their Secretary, had much more varied accomplishments than many of them were at all aware of. Some of the drawings he was already familiar with from his own acquaintance with Mr. White; but he had no idea that he had done so much picturesque sketching of old work. The work done by him during the short time he was a practising architect in France showed rare ability, and, as Mr. Flower had said, there was no doubt that Mr. White would have been widely heard of had circumstances allowed him to follow his profession as an architect. He well remembered the impression that the drawing of the Château of Bizy produced on his mind many years ago at the old Architectural Exhibition, before the institution of the Architectural Room at the Royal Academy. He recognised the drawing at once, although it must be twenty or more years since he saw it; he remembered it struck him at the time as an excellent drawing, and quite a characteristic piece of work. But what remained most in his memory was that very remarkable drawing which illustrated the "Queen Anne" Paper. There was an amount of satire, of satirical comment on architectural "progress," expressed through that drawing which was truly remarkable. He remembered hearing at the time that the late James Fergusson was exceedingly struck with it, and that it gave him a great deal of pleasure. Particularly observable was the large gargoyle, its combination with the other details being very characteristic. In looking at these drawings they had gained a new impression of their late Secretary, and had become aware, for the first time, of the rare talents which he possessed. The exhibition of his work increased their sense of his loss, and their desire to honour his memory.

Mr. J. M. Brydon [*F.*] said that he seconded the vote of thanks with great pleasure, because he felt that they had Mr. White now before them as an architect and not merely as their Secretary. It had been a great pleasure to them all to look over the drawings exhibited that evening. What had struck him more particularly was the versatility of mind displayed by their author. The man who could design and carry out the Château of Bizy in the style of eighteenth-century French architecture, and then come to the Gothic style shortly afterwards, must of necessity have been a most remarkable man. He wanted specially to call attention to the Château of Bizy, because the whirligig of time had brought them more or less round to Old Classic instead of Old Gothic, and really the pages of his drawings which illustrated the château were very remarkable. There was one detailed drawing in particular he should like members of the Institute to examine. Considering the time of its execution, it was really a very notable drawing. It was a time, they must remember, when nobody in England knew much about classic architecture, and this particular piece of work was drawn by an Englishman who had been but a short time in France. It possessed the spirit of the French Renaissance as distinguished from the English Renaissance, and one felt the personality of the man in the drawing. Considering that at that time architects in England were running after Gothic as fast as they could, foreign and English, it was remarkable that here was a man in their midst who had caught up the spirit of the old French work and reproduced it as they saw it now. It was an instance of the manner in which he almost transported himself into the feeling of the French style and reproduced it. It had, too, a system and a spirit of its own, and was not a mere copy. Those drawings were most instructive. He believed the date of them was about 1866, when they were supposed to be creeping back to a particular phase of work—he would give it no name either in England or France. At any rate, an example was before them done by Mr. White at this time. They all remembered the satire in the "Queen Anne" Paper, and it reminded one of the genial satire which Mr. White infused into his Papers, and which they sometimes saw in his drawings.

Mr. Hugh Stannus [*F.*], who was called upon by the Chairman, regretted he could not add anything to Mr. Flower's interesting Paper, as he (Mr. Stannus) had said all he had thought about Mr. White in the few disjointed remarks, wrongly termed a "monograph" by the editor, in the *Builders' Journal*. He had penned them under great pressure, and with a sense of regard for their late Secretary's character and memory, which no doubt many would share; and he had been thankful for the opportunity. The more he had looked into Mr. White's literary and artistic work, the more he became permeated with a strong feeling of admiration for that work; and the drawings now laid before them increased and deepened that feeling. Some of them, perhaps, at times, when in official contact with their late Secretary, might have thought him a shade masterful; but probably none of them had realised that there existed all this power and ability behind him. Had they done so—had they realised that, in addition to his splendid literary work as Editor of their Transactions, he had this grip of artistic work of various styles and kinds, the evidences of which they could all see now—they would have bowed to his judgment. They could only regret that now they had found it out it was too late.

The Chairman (Mr. Aston Webb, F.S.A., *Vice-President*) thanked Mr. Flower for his description of the drawings, which had so much and such sad interest for them. He understood that the details of Bizy and Martinvast were to go to the Barons de Schickler, the owners of the châteaux; but the other drawings, with the exception of a few that had been given to friends, would remain, thanks to Colonel White, as the property of the Institute. In common with Mr. Statham, he must say that, although his associations with Mr. White had been for three or four years closely intimate, he had no knowledge whatever of his sketching powers, as shown in the drawings around them. It was a proof of his self-repression that while he was conscious of the power which those drawings, both in design and in draughtsmanship, showed he had attained, when circumstances of an extraordinary nature arose which led to the loss of his practice through no fault of his own, he was able to take up the work of the Institute heart and soul, and to give up work for which he was so well fitted. Yet their late Secretary never seemed to repine or complain at his loss, never spoke of his work or of his drawings—and it was, he thought, a most pathetic thing that they should now see them together for the first time—but devoted himself absolutely for eighteen years to the interests of the Institute. Whatever difference of opinion one might have had with him, no one doubted for a moment that nothing that he did had any other motive than that of forwarding the interests, and the best interests, of the Institute. In putting the vote of thanks to Mr. Flower, he should like to couple with it a vote of thanks to Colonel White for the drawings as well as for the books.

Letters of Condolence.

Further expressions of condolence with the Institute on the loss it has sustained by the death of its Secretary, Mr. William H. White, have been received from the Sheffield Society of Architects, the Northern Architectural Association, the Devon and Exeter Architectural Society, and the Birmingham Architectural Association.

The following letter has been addressed to the President by M. Paul Sédille [*Hon. Corr. M.*], writing from Paris on the 15th ult.:—"Très cher et honoré Président,—C'est avec une douloureuse surprise que j'ai appris la mort de notre excellent confrère W. H. White. Les dernières lettres que j'avais reçues de lui cet été dernier me laissaient croire à une guérison prochaine. D'ailleurs j'avais eu le plaisir de le recevoir à Paris, au printemps de cette année, lors de la fête de la Société Centrale des Architectes Français, et j'avais saisi cette occasion pour le conduire au Palais de Fontainebleau, qu'il ne connaissait pas. Il fit cette excursion, ainsi qu'une promenade dans la forêt, avec beaucoup de gaieté et sans que rien en lui ne révélât la moindre fatigue. Sa maladie d'abord m'a beaucoup surpris et sa mort m'a très sincèrement affligé. L'Institut perd en lui un membre et un serviteur très dévoué dont la disparition sera à tous égards très sensible ; nous perdons tous un très bon confrère qui était devenu pour moi un ami. Je tenais, très cher et honoré Président, à vous faire part de ces sentiments, en vous priant de les exprimer à mes confrères de l'Institut. Votre très sincèrement dévoué,

"PAUL SÉDILLE."

The Manchester Society's Annual Banquet.

The Annual Banquet of the Manchester Society of Architects was held at the Queen's Hotel, Manchester, on the 20th ult. The President of the Society, Mr. John Ely [*F.*], presided, and among the official guests were the President of the Institute, Professor Aitchison, A.R.A., and the President of the Architectural Association, Mr. Beresford Pite. In responding to the toast "The President of the Royal Institute of British Architects," proposed by Mr. E. Salomons [*F.*], Professor Aitchison thanked the guests for the honour they had done the Royal Institute of British Architects by drinking the health of its present representative. Before saying anything about the Institute, he hoped they would pardon a slight digression, but he could not pass over the occasion without referring to the large number of splendid buildings they naturally had in Manchester, for it was probably the wealthiest city in England. The Corporation and magnates of the town required large, convenient, important, and magnificent buildings, and the skill of architects provided the convenience, the stateliness, and the dignity. If they themselves were to see its buildings changed into white marble, or even into the golden hue of the Acropolis or the Forum, they would scarcely know their own town or their own buildings. If black Manchester were so from its native material, it might stimulate the architects to study how to build in black ; but its blackness was not that of which Milton spoke—

> Black, but such as in esteem
> Prince Memnon's sister might beseem ;

but merely unconsumed fuel, the result of ignorance and sloth, which would one day, when that ignorance was dispelled and that sloth overcome, be turned into gold, instead of injuring the lungs of the inhabitants and spoiling the look of the buildings. As he was not in the company of chemists and mechanicians who could cure that deadly blight, he would suggest the use of enamelled bricks and terra-cotta. The old Persians with these materials produced the splendid decorations of monumental buildings. In the Louvre the Persian friezes from Darius's Palace at Susa might be seen, the very perfection of dignified colour, which doubtless suggested to the Saracens the manufacture of their lovely tiles. If that splendid form of decoration were used there, it would not only fill the town with colour, light, and brilliancy, and improve the health of the people, but the buildings could be kept clean by the hose. As regarded the Institute, some provincial architects had asked what they would gain by joining it. Was it nothing to belong to a Body whose members comprised so many distinguished architects not only in the United Kingdom, but in every part of the British Empire—a Body that had a local habitation and a name, to which the benevolent could leave bequests for medals, bursaries, studentships, and for the relief of indigence—a Body with which foreign Governments, municipalities, and distinguished foreign architects could correspond ; that was entrusted by the Queen with the duty of annually nominating some distinguished architect from any nation in the world, on whom Her Majesty might confer her Gold Medal ; and that used its utmost endeavours to obtain just treatment of architects by powerful corporations? The Institute possessed a splendid Reference Library and Loan Collection, and portraits of all the past Presidents either on canvas or in marble. Every member received the JOURNAL, a publication which was the admiration of foreign architects ; and if provincial members did not consider the matter good enough, he need not say the Institute would be greatly pleased to get Papers from them which would cast into shade that of the late Professor Willis on Gothic Stone Cutting. Besides those things, the Institute had been instrumental in advancing architectural education. By its examinations, it had pointed out to students that all architectural knowledge was not to be gained by three years' work in an architect's office, and had by those very means raised the status of the profession. Some country members considered they had grievances. He was as far from saying that the Institute was perfect as that it was possessed of unlimited means ; but of one thing he was sure, that its Council desired to do all in their power to amend any possible defects. They all hoped to see the Fellowship looked upon as an honour, and he trusted they might set aside their little differences, and endeavour, by setting the whole on a thoroughly sound basis of Art and Science, to make the fabric as firm as a rock. He felt sure that the fondest hope of every British architect was to see architecture once more a progressive art, and to stamp that of the next century with the character of its time. Though genius seemed a direct gift from Heaven, it might be noticed that it was produced among free, virtuous, and courageous nations, and got brilliancy from the education it received. Newton, Milton, and Wren did not have their genius fettered because they were of the most learned of their time; their genius was but tempered and polished by their learning. He hoped that that god who—

> Took up the harp of life, and smote on all the chords with might,
> Smote the chord of self that, trembling, pass'd in music out of sight,

might do the same by them; so that they, all regardless of themselves, might strive to revivify their noble art, and cause it once more to blossom, as it blossomed in the great art epochs of the past.

Mr. Beresford Pite responded on behalf of the Architectural Association to the toast of the "Allied Societies," and remarked that Manchester, in its commerce and resulting wealth, possessed an essential element of grand works of architecture, and that though the stress of space and business might prevent any considerable architectural developments from becoming apparent in the actual business premises of the city, such buildings were nevertheless quite as important historically and characteristic of the national life as works of a more ideal art. And, further, that Societies of architects and artists for mutual intercourse and stimulus became the more important and useful as opportunities for the cultivation of artistic aims in times of increasing business pressure.

Erratum.—A palpable printer's error in the Additions to the Library in the last issue, p. 43, requires correction: *for* Le Vieux *read* Le Keux.

MINUTES. III.

At the Third General Meeting (Business) of the Session, held Monday, 30th November 1896, at 8 p.m., Mr. Aston Webb, F.S.A., *Vice-President*, in the Chair, with 13 Fellows (including 7 members of the Council), and 9 Associates, the Minutes of the Meeting held 16th November, 1896 [p. 48] were taken as read and signed as correct.

The Chairman announced the decease of the following members—namely, the Right Hon. Lord Savile, *Hon. Associate*; Frederick Morley (Dublin), and William Alphonsus Purdue, *Associates*.

The following Fellow, attending for the first time since his election, was formally admitted, and signed the Register—namely, Frederick George Knight.

A list of donations to the Library [see *Supplement*] was taken as read, and an expression of the thanks of the Institute to the several donors was ordered to be entered on the Minutes.

The following candidates for membership in the various classes were elected by show of hands, under By-law 9:

As Fellows (4).

FREDERICK BLIGH BOND [*A.*] (Bristol).
HARRY PERCY ADAMS (*Inst. Silver Medallist (Drawings)* 1888, *Godwin Bursar* 1894).
GEORGE ALFRED HALL [*A.*].
ALEXANDER MARSHALL MACKENZIE, A.R.S.A. (Aberdeen).

As Associates (18).

RICHARD HAROLD SMITH (*Probationer* 1891, *Student* 1893, *Qualified* 1896) (Bristol).
RICHARD CROFT JAMES (*Probationer* 1889, *Student* 1892, *Qualified* 1896) (Bristol).
SEGAR OWEN (*Probationer* 1891, *Student* 1894, *Qualified* 1896) (Warrington).
LOUIS ANTONIO HAYES (*Qualified* 1896) (Oldham).
HARRY SUTTON CHORLEY, M.A.Oxon. (*Probationer* 1891, *Student* 1893, *Qualified* 1896) (Leeds).
THOMAS CULY GRIMBLE (*Qualified* 1896) (Lytham, Lancashire).
HERBERT EDGAR NAPIER (*Qualified* 1896).
GEORGE FOX (*Qualified* 1896).
THOMAS DENTON BROOKS (*Probationer* 1890, *Student* 1893, *Qualified* 1896) (South Elmsall, near Doncaster).
GEORGE SINCLAIR (*Qualified* 1896) (Glasgow).
WILLIAM THOMAS GREWCOCK (*Probationer* 1889, *Qualified* 1896) (Stapleton Manor, near Hinckley).
SYDNEY DAWE (*Qualified* 1896) (Watford).
CHARLES WILLIAM HARRIS (*Probationer* 1893, *Student* 1894, *Qualified* 1896) (Liverpool).
ROBERT MARCHANT (*Probationer* 1890, *Student* 1892, *Qualified* 1896).
FREDERICK CHATTERTON (*Probationer* 1892, *Student* 1893, *Qualified* 1896).
JAMES WRIGHTSON BATESON (*Qualified* 1896).
WILLIAM HENRY STANBURY (*Qualified* 1896) (Gibraltar).
JOHN MALCOLM DOSSOR (*Qualified* 1896) (Newport, I.W.).

As Hon. Associates (2).

FRANCIS BOND, M.A.Oxon., F.G.S.
HENRY ERNEST MILNER, F.L.S., Assoc.M.Inst.C.E.

The Acting Secretary announced the results of the Preliminary and Intermediate Examinations held in London and Manchester, and of the Final and Special Examinations held in London, during the month of November, and read the names of the candidates who had passed [pp. 66–68].

The Acting Secretary further announced that the Council had awarded the Arthur Cates Prize for Testimonies of Study prepared for the November Final Examination to Mr. Charles Samuel Frederick Palmer, of Sittingbourne, Kent.

The Business Meeting then terminated.

The White Bequest.

At a Special General Meeting held Monday 30th November 1896, at the conclusion of the Business Meeting above referred to, Mr. Aston Webb, F.S.A., *Vice-President*, in the Chair, with 13 Fellows (including 7 members of the Council), 9 Associates, and a few visitors, Mr. Alexander Graham, F.S.A., *Vice-President*, invited the Meeting to inspect the books laid upon the table which had formed part of the library of the late Secretary, Mr. William H. White, and which, with a numerous collection of drawings, the work of the deceased, had been presented to the Institute by Colonel G. A. White in compliance with his brother's wishes.

Mr. Arthur S. Flower [*A.*], M.A., F.S.A., having read a description of the designs and drawings, a large number of which were exhibited, and drawn attention to the more important illustrations of Mr. White's architectural works, it was

> Resolved, that the most cordial thanks of the Institute be tendered to Colonel White for having complied so generously with the special request of his late brother, Mr. William H. White.

A vote of thanks to Mr. Flower for his Paper having been passed by acclamation, and briefly responded to, the proceedings closed, and the Meeting separated at 9.30 p.m.

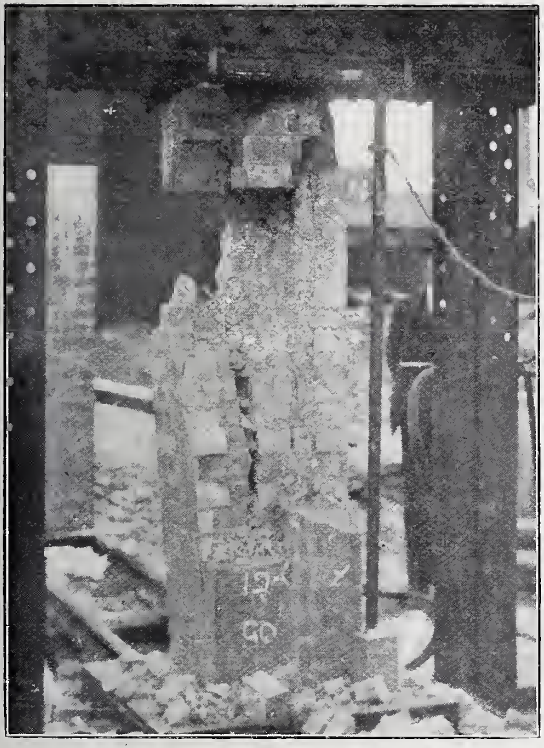

FIG. 1.—PIER 12A, AFTER 240 LB. ON GAUGE.

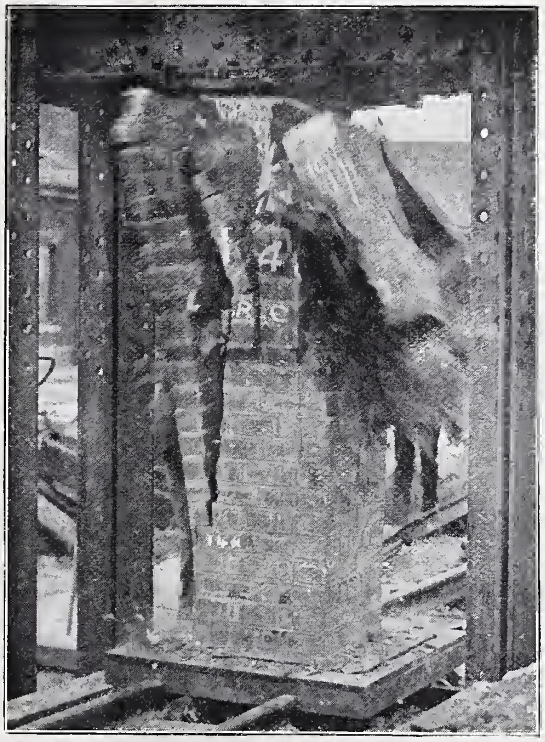

FIG. 2.—PIER 14A COLLAPSING.

BRICKWORK TESTS.

REPORT ON THE SECOND SERIES OF EXPERIMENTS, by William C. Street [*F.*] and Max. Clarke [*A.*]. With APPENDICES by Professor Unwin [*H.A.*], F.R.S.

Read at the General Meeting, Monday, 14th December 1896, and, with the illustrations, registered at Stationers' Hall as the property of the Royal Institute.

We have now, on behalf of the Science Standing Committee, to present our report on the second series of experiments on brickwork piers.* These took place on the same site as the first, at the West India Docks, during the month of June last.

It will be remembered that, owing to the very unsatisfactory manner in which some of the piers, the subject of experiment in December 1895, had been built, duplicates were determined upon, and these were the piers first tested in June. The piers were three months old, having been built in March, and were numbered 1*a*, 11*a*, 12*a*, 14*a*, 15*a*, and 16*a*, replacing the same numbers in the first series. After crushing these piers there remained the second eight in lime mortar, and the second eight in cement mortar, built at the same time as those the subject of the first series of experiments, and consequently ten months old when tested in June. When these had been crushed, a pier was built, at the suggestion of Professor Unwin, of bricks laid in sand, and experimented upon in the same way as the others.

The principal part in the experiments was undertaken by Messrs. William C. Street, Max. Clarke, Matt. Garbutt, and Bernard Dicksee, members of the sub-committee, who were present throughout the whole of the crushings. Mr. Street took note of and called the pressures; Mr. Clarke superintended the preparation of the photographs from which the illustrations have been selected and prepared; Mr. Garbutt, with the exception of a part

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* The Report on the First Series of Experiments conducted by the Science Standing Committee, with Supplementary Papers by Professor Unwin, F.R.S., will be found in the Journal, Vol. III. Third Series, pp. 333–358.

Pier No. 11*a*.—Gault Bricks from Burham, Kent, in Cement Mortar 1 to 4.

6′ 0⅞″ high ; 18″ × 18″ ; sectional area 2·25 sq. ft.
Built 11th March ; crushed 8th June. Age 12⁵⁄₇ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
11.27	9	0·66	0·29	—	Took its bearing.
11.31	11	1·66	0·73	$\frac{2}{32}$	
11.34	20	6·14	2·72	$\frac{4}{32}$	
11.36½	40	16·10	7·15	$\frac{6}{32}$	
11.37	45	18·59	8·26	—	Small crack in brick, N.W. corner, top course.
11.38	50	21·08	9·36	$\frac{8}{32}$	
11.38½	55	23·57	10·47	—	Crack in brick, S.W. corner, bottom course.
11.45½	70	31·04	13·79	—	Crack in brick, N.E. corner, bottom course.
11.48½	80	36·02	16·00	—	Mortar falling out of bottom on E. face.
11.49½	85	38·51	17·11	—	Crack in bottom course, N.E. corner, beginning to open.
11.52	95	43·49	19·32	—	Brick at S.E. corner, bottom course, bursting.
11.55½	110	50·96	22·64	—	Bottom course crushing, and mortar falling from joints.
11.56½	125	58·43	25·97	—	Bottom course crushing, audible cracks.
11.57	135	63·41	28·18	—	Cracking slightly on E. face, tenth course from bottom.
11.58	150	70·88	31·50	—	Bricks spalling, two courses from bottom, W. face.
11.59	160	75·86	33·71	$\frac{9}{32}$	Crushing badly, two courses from bottom, W. face; the pressure fell 3 lb., but the pier generally intact.
12.2	165	78·35	34·82	—	The crushing at bottom extended to three courses.
12.4	170	80·84	35·92	—	The crushing at bottom extended to four courses through stretcher in line of closers.
12.7	175	83·33	37·03	$\frac{10}{32}$	Second course from top, N.E. corner, spalling.
12.9½	180	85·82	38·14	—	Second course from top, N.W. corner, brick cracking.
12.12½	185	88·31	39·24	$\frac{11}{32}$	Slight fall of pressure.
12.16	195	93·29	41·46	—	Compression again $\frac{11}{32}$.
12.19½	220	105·74	46·99	$\frac{12}{32}$	Crushing well at bottom seven courses, N.E. angle, and face of two bottom courses on W. face falling off. Slight but steady falling of mortar.
12.24	225	108·23	48·10	$\frac{14}{32}$	Pier suddenly burst out at bottom and fell. The top six courses remained and fell intact. The next eight courses split into four equal portions; beneath this a few courses were crushed completely, while at bottom a pyramid about five courses high remained on head of ram. The cement was set and hard all through, the joints being well flushed up.

Pier No. 12*a*.—Gault Bricks from Burham, Kent, in Cement Mortar 1 to 4.

6′ 0¼″ high ; 18″ × 18¼″ ; sectional area 2·266 sq. ft.
Built 12th March ; crushed 8th June. Age 12⁴⁄₇ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
2.21	12	2·15	0·94	—	Took its bearing.
2.24½	70	31·04	13·69	$\frac{5}{32}$	Slight internal sounds, not cracks.
2.28	105	48·47	21·39	$\frac{6}{32}$	Crack in top three courses, N.W. corner, ¾″ from angle.
					Crack in top three courses, S.W. course, 1¼″ from angle.
2.30	115	53·45	23·58	—	Crack two courses down, centre of W. face.
2.33½	130	60·92	26·88	$\frac{7}{32}$	Another crack, S.W. corner, through two top courses, and 4½″ from angle.
2.36½	155	73·37	32·37	$\frac{8}{32}$	Cracks previously noted in top courses extending.
2.39½	180	85·82	37·87	$\frac{9}{32}$	Top courses getting worse.
2.40	185	88·31	38·97	—	Western closer on ninth course, N. face, spalling.
2.42	195	93·29	41·16	—	Crack at top N.W. corner extending and spalling.
2.45½	210	100·76	44·46	$\frac{10}{32}$	Pieces bulging and falling, N.W. top corner.
2.50	230	110·72	48·86	$\frac{11}{32}$	Cracking up all over.
2.51	240	115·70	51·05	$\frac{12}{32}$	Split suddenly and failed completely. Cracking from top downward, following the line of closers. (See fig. 1, p. 73.) The pier well built; cement set and hard; no joints squeezed out until the final crushing.

when Mr. Burrows was present, recorded the compression of the piers at the different pressures, and took notes on one side of the testing apparatus; while Mr. Dicksee called the time, and made notes on the other side of the apparatus. The valve by which the pressure water was admitted into the press was regulated by Mr. Creighton, the foreman at the Docks.

The compression observations were made with a gauge constructed specially for this purpose by Mr. Adie, and, except in one instance (Pier No. 26), when there was an accident in setting the instrument, the observations were satisfactorily and easily made.

On the 15th June the effective pressures of the testing machine were again ascertained by Professor Unwin in the manner set forth in one of the Appendices to this Report, and it is upon the formula derived therefrom by Professor Unwin that the pressures in the tabular results have been calculated.

Pier No. 14*a*.—Leicester Red Bricks from Ellistown, near Leicester, in Cement Mortar 1 to 4.

6′ 0$\frac{1}{8}$″ high; 18″ × 18″; sectional area 2·25 sq. ft.
Built 13th March; crushed 8th June. Age 12$\frac{3}{7}$ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
3.22	13	2·65	1·17	—	Took its bearing.
3.23½	30	11·12	4·94	$\frac{3}{32}$	
3.24½	45	18·59	8·26	$\frac{4}{32}$	
3.25½	60	26·06	11·58	$\frac{5}{32}$	
3.27	85	38·51	17·11	$\frac{6}{32}$	
3.30	125	58·43	25·97	$\frac{7}{32}$	Until this pressure was called the pier showed no signs of strain.
3.34	140	65·90	29·28	—	S. side, 7½″ from W. corner; slight crack two top courses.
3.36½	150	70·88	31·50	—	Crack in N.E. top-corner brick; face split off 2″ × 3″. S. side 1″ from W. corner; two top courses slightly cracked.
3.40	160	75·86	33·71	$\frac{8}{32}$	Crack top of E. face, in centre joint.
3.41	170	80·84	35·92	—	S. side, at W. corner, top course, slight spall.
3.42	175	83·33	37·03	—	W. face, two top courses slightly giving at S. corner.
3.44	185	88·31	39·24	—	E. face, top crack extending down two courses at closer.
3.44½	195	93·29	41·46	$\frac{9}{32}$	
3.46½	210	100·76	44·78	—	N.E. top brick crushing at end (N. face).
3.48	220	105·74	47·00	—	S. side, bottom course; very thin flakes off face.
3.50	225	108·23	48·10	—	Bottom two joints slightly spalling off.
3.51½	230	110·72	49·20	—	S. side, third course from bottom; slight flaking of face.
3.54½	245	118·19	52·52	$\frac{10}{32}$	
3.56	255	123·17	54·74	—	S.W. top corner, surface crushed, but hardly any fallen out.
3.57	260	125·66	55·84	—	S. side, third course from bottom, spalled and split at 4½″ from S.E. angle. N.W. bottom corner cracking and spalling off two courses up.
3.59	275	133·13	59·16	—	S. side, second joint from bottom, burst out and fell off for length of 9″.
4.0½	300	145·58	64·70	$\frac{11}{32}$	S. side still sound, all but three top and three bottom courses.
4.1½	315	153·05	68·02	—	S.W. angle, second bed-joint from top; mortar dropping slightly but steadily.
4.3½	330	160·52	71·34	—	S. side, at S.E. angle; bottom three courses cracked.
4.4	340	165·50	73·55	$\frac{12}{32}$	
4.4½	350	170·48	75·76	—	S. side, 7½″ from S.W. angle; crack down through top courses.
4.5	360	175·46	77·98	—	Sharp sound of cracking. Crack four courses down from top at N.E. corner. Bottom two courses crushing on N. face.
4.6	375	182·93	81·30	—	S. side, 7½″ from S.E. angle; crack from top down through six courses.
4.6¼	380	185·42	82·40	—	Cracked down nine courses in several places on N. face.
4.7	385	187·91	83·51	—	S. side, 4½″ from S.E. angle; cracks from fifth to eighth course from top. N. side, cracks extended down twelve courses at both closers.
4·8	390	190·40	84·62	—	Cracking at middle of pier on S. and E. faces, joint and bricks spalling.
4.9½	395	192·89	85·72	—	More cracks showing vertically, mostly near top, and at closer lines.
4.9½	398	194·38	86·39	—	Pier collapsed, bursting out on all sides. (See fig. 2, p. 73.) Pier well built. Cement set and hard.

The tables annexed to this Report, giving the results of each experiment, have been prepared by Mr. Street from the collective observations of the sub-committee.

Pier No. 15*a*.—Staffordshire Blue Bricks from Rowley Regis, in Cement Mortar 1 to 4.

6′ 0⅜″ high; 18⅛″ × 18″; sectional area 2·266 sq. ft.
Built 14th March; crushed 10th June. Age 12⁴⁄₇ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
10.54	11	1·66	0·73	—	Took its bearing.
10.55	40	16·10	7·10	$\frac{1}{48}$	
10.55½	50	21·08	9·30	$\frac{1}{32}$	
10.56½	120	55·94	24·68	$\frac{2}{32}$	
—	140	65·90	29·08	$\frac{3}{32}$	
—	155	73·37	32·37	—	Sharp internal crack heard.
10.57	160	75·86	33·47	$\frac{4}{32}$	
	164	77·85	34·35	—	Second sharp internal crack heard.
11.4½	200	95·78	42·26	—	Distinct crack, pier jumped or jerked slightly, and there was a small fall of pressure.
11.6	210	100·76	44·46	[illegible]	
—	215	103·25	45·56	—	N. face, 4½″ from N.E. angle; crack down through three top courses.
11.8	235	113·21	49·96	—	Bottom joint on S. face spalling; also on three courses from top on N. face.
11.8½	240	115·70	51·05	$\frac{6}{32}$	
11.10	250	120·68	53·25	—	Brick cracked and spalling on fourth course from top N.E. angle.
11.11	256	123·66	54·57	—	Crack up four courses, S.E. bottom corner at closers.
—	258	124·66	55·01	—	Crack up four courses, extended upwards five courses.
11.13½	270	130·64	57·65	—	Crack up four courses, extended upwards seven courses.
11.16	290	140·60	62·04	$\frac{7}{32}$	Audible sharp crack, pressure gauge jumped up 3 lb. with jerk.
11.17½	300	145·58	64·24	—	N. side, 4½″ from N.E. corner: crack through bottom seven courses.
					N. side, 7½″ from N.E. corner, fourth course from top; vertical crack in one brick only.
11.19	310	150·56	66·44	—	E. face, slight spalling of joints.
11.22½	330	160·52	70·83	—	Loud sharp crack, slight dropping of cement. Crack through one brick in seventh course, N. side, 4½″ from N.E. angle.
					Crack at top S.E. corner extending from third to eighth course at closer, S. face.
11.23	335	163·01	71·53	$\frac{8}{32}$	Crack S.E. corner extended to top, and crack N.E. corner extending down through eight courses.
11.26½	380	185·42	81·86	—	S. face, top crack opening very slightly, and extended down ten courses: closers.
					E. face, slight spalls third to fifth course from top; cracks nearly in centre of face.
					N. face, 4½″ from N.E. angle; crack through ten top courses.
					N. face, 4½″ from N.E. angle; brick in second course spalling.
—	385	187·91	82·96	$\frac{9}{32}$	
11.32	390	190·40	84·06	—	Bottom crack, S. face, extended eight courses up.
					N. side, 4½″ from N.E. corner; split twelve courses down from top.
					E. side, joints crushing and surface spalls.
11.33	400	195·38	86·26	—	E. side, cracks down centre to tenth course.
					Sharp crack heard, and fall of pressure.
11.36	410	200·36	88·46	—	S. face, top crack open $\frac{1}{16}$.
11.37	420	205·34	90·66	$\frac{10}{32}$	Cement falling from two bottom courses, audible cracking. Another crack on S. face, centre of height and width, through three courses.
11.40	430	210·32	92·85	—	Top crack at S.E. angle extended twelve courses down.
					N. side, 4½″ from N.E. corner; split thirteen courses down.
11.42	470	230·24	101·65	—	Pressure fell, then rose again.
—	480	235·22	103·85	$\frac{11}{32}$	Crack last mentioned suddenly extended to bottom of pier, and pressure fell.
11.45	490	240·20	106·05	$\frac{12}{36}$	Many splits.
11.46	500	245·18	108·25	—	Pier gave way, and, after crushing, a core 9″ × 9″, and about ten courses high, remained firmly held together. (See figs. 3 and 4.)

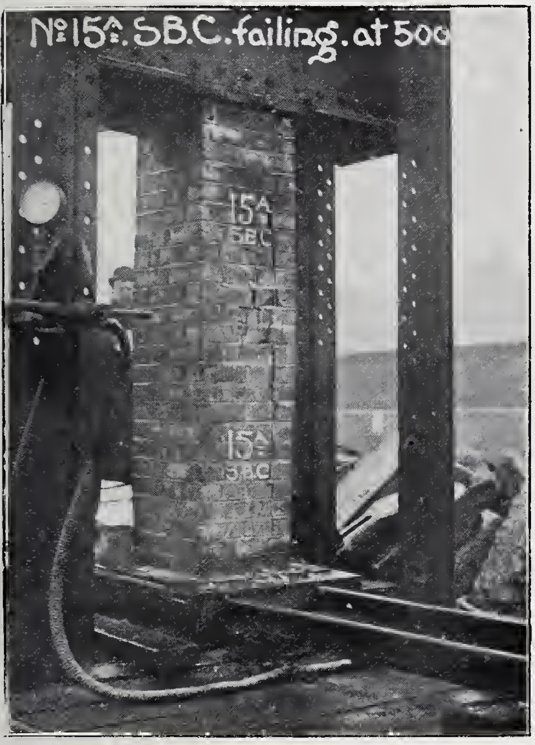

FIG. 3.—PIER 15*a* FAILING. GAUGE AT 500.

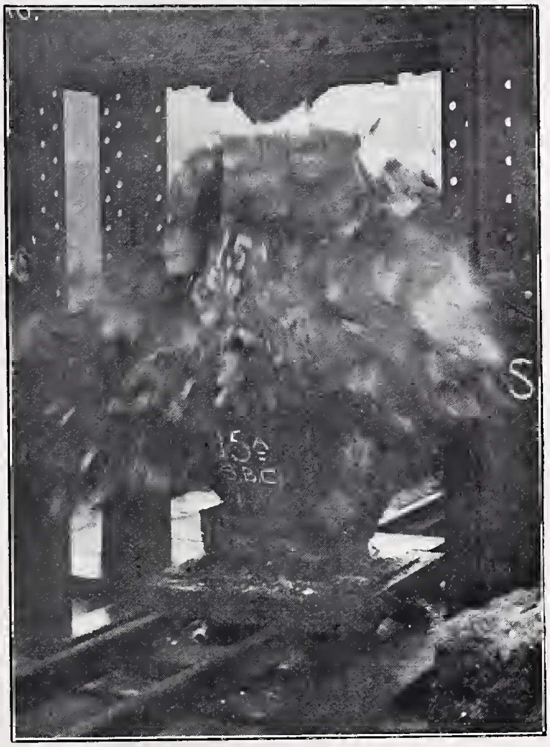

FIG. 4.—PIER 15*a* IN ACT OF FALLING.

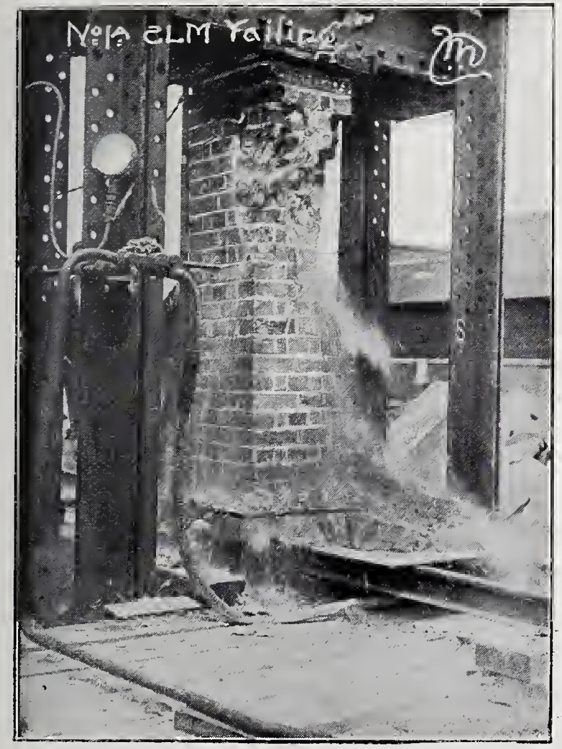

FIG. 5.—PIER 1*a* FAILING. GAUGE AT 92.

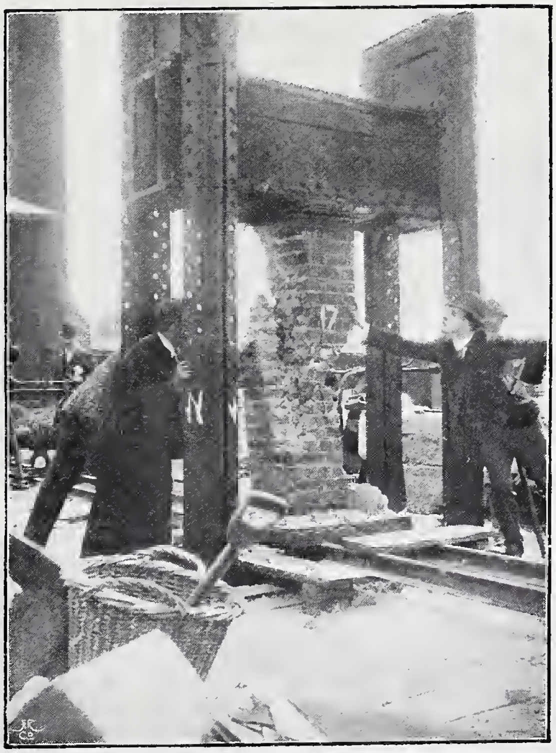

FIG. 6.—PIER 17, SHOWING MODE OF FAILURE.

⁎ *The copyright in all the illustrations in this number is the property of the Royal Institute.*

Pier No. 16*a*, Staffordshire Blue Bricks from Rowley Regis, in Cement Mortar 1 to 4.

6′ 0¼″ high; 18″ × 18″; sectional area 2·25 sq. ft.
Built 14th March; crushed 12th June. Age 12$\frac{5}{7}$ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes.
10.37	12	2·15	·95		In bearing.
10.38½	20	6·14	2·72	$\frac{1}{32}$	
10.40	30	11·12	4·94	$\frac{2}{32}$	
10.41	40	16·10	7·15	$\frac{3}{32}$	
10.42	70	31·04	13·79	$\frac{4}{32}$	
10.43	130	60·92	27·07	$\frac{5}{32}$	
10.44	170	80·84	35·92	[illegible]	Commenced to flake and crack near top.
10.49	220	105·74	46·99	—	Farther cracks in top, and gauge fell.
10.56	250	120·68	53·63	[illegible]	
10.56½	280	135·62	60·28	—	Cement squeezing out of third bed from top.
10.57½	300	145·58	64·60	—	Crack six courses down S.W. corner; sixth course only sealed.
11.2½	350	170·48	75·76		
11.4	370	180·44	80·19		Top five or six courses well cracked.
11.8	400	195·38	86·83		Spalling at joints two courses from bottom.
11.10	410	200·36	89·04		Cracks opening.
11.17½	420	205·34	91·26		Crack at S.E. corner of top extended down ten courses.
11.31	440	215·30	95·69		Pier bulging and spalling. Gauge fell to 410.
11.32	450	220·28	97·90		Pier cracking and opening, and gauge fell to 395, then rose again to 430, when pier burst, the bottom seven to ten courses remaining practically sound.
11.36	430	210·32	93·47	—	

Pier No. 1*a*.—Stock Bricks from Sittingbourne, in Lime Mortar 1 to 2.

5′ 10½″ high; 18[illegible] × 18[illegible]; sectional area 2·297 sq. ft.
Built 14th March; crushed 12th June. Age 12[illegible] weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes.
12.18	12	2·15	·94	—	In bearing.
12.21	20	6·14	2·67	—	
12.27	40	16·10	7·01	—	Cracks in top course at N.E. and S.W. corners.
12.28	45	18·59	8·09	—	Cracking in top two courses.
12.30	55	23·57	10·26	[illegible]	
12.32	65	28·55	12·43	—	Cracks extending down four courses, and mortar falling.
12.36½	85	38·51	16·76	—	Cracks extending down six courses. Internal cracks heard.
12.38	90	41·00	17·84	[illegible]	Cracks extending and compression continuing without increase of pressure.
12.39½	92	41·99	18·28	—	New cracks suddenly developed and pier fell. The bottom nine courses tolerably sound; mortar on N. face softer than that on the S. (See fig. 5, p. 77.)

Pier No. 17.—Stock Bricks from Sittingbourne, in Lime Mortar 1 to 2.

6′ 0½″ high, 18$\frac{3}{16}$″ × 18¼″; sectional area 2·305 sq. ft.
Built 12th August 1895; crushed 12th June 1896. Age 43$\frac{4}{7}$ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
2.8	15	3·65	1·58		In bearing.
2.11¼	35	13·61	5·90	$\frac{2}{32}$	
2.12½	45	18·59	8·06	$\frac{3}{32}$	Internal crack audible.
2.13	50	21·08	9·14	$\frac{4}{32}$	Crack top S.W. corner, two courses down, below defective vertical joint.
2.13½	55	23·57	10·22	$\frac{7}{32}$	
2.14	60	26·06	11·30	$\frac{8}{32}$	N. side 4½″ from N.E. angle cracked from third to seventh course inclusive.
2·15	70	31·04	13·46		Pier split in centre from top to bottom.
	73	32·53	14·11	$\frac{12}{32}$	Compression continuing and pier fell. (See fig. 6, p. 77.)

⁎ Mortar set, but apparently badly mixed.

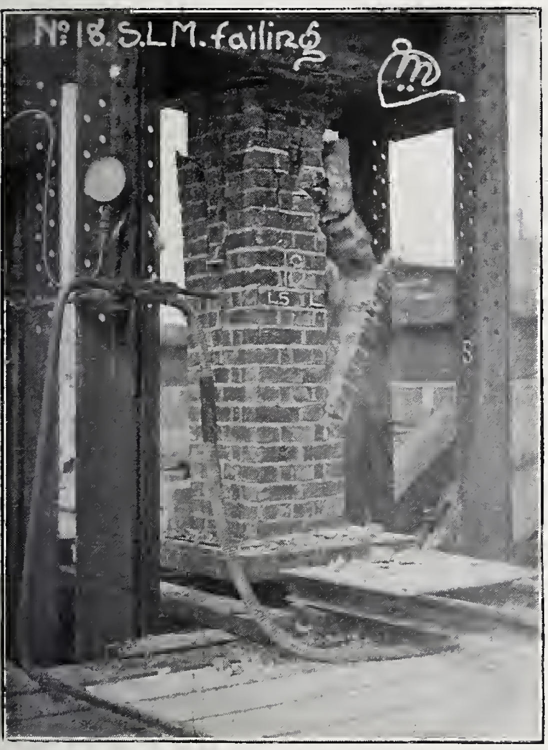

FIG. 7.—PIER 18 FAILING. GAUGE AT 59.

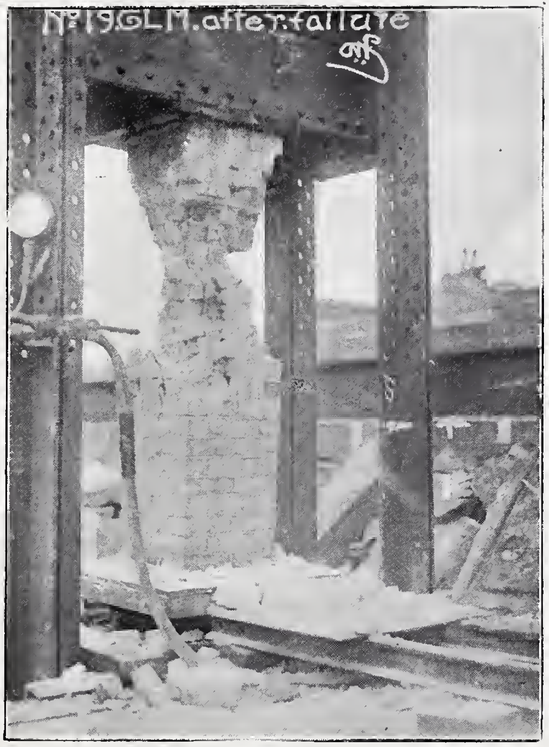

FIG 8.—PIER 19, AFTER FAILURE. GAUGE 51·95.

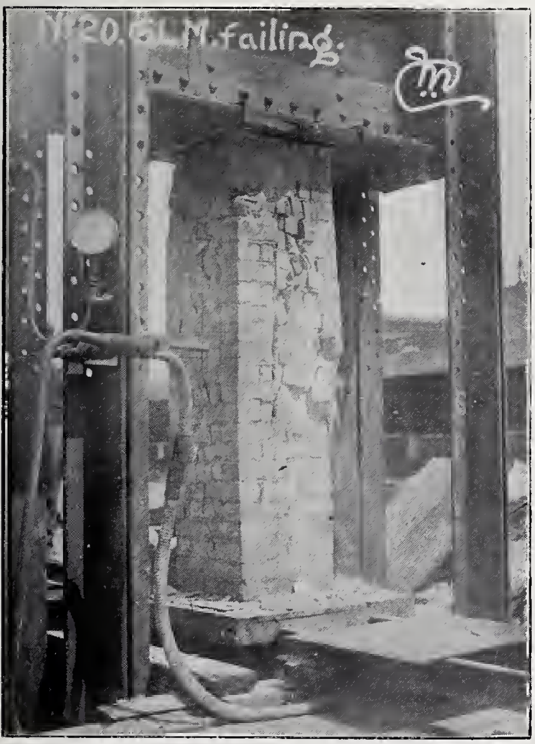

FIG. 9.—PIER 20. COMMENCEMENT OF COLLAPSE.

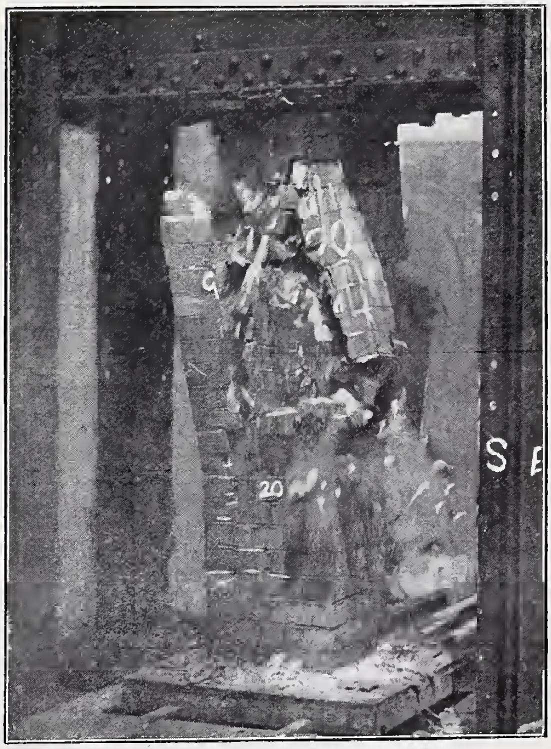

FIG. 10.—PIER 20 COLLAPSING.

Pier No. 18.—Stock Bricks from Sittingbourne, in Lime Mortar 1 to 2.

6′ 0⅜″ high; 18⅜″ × 18¼″; sectional area 2·329 sq. ft.
Built 12th August 1895; crushed 12th June 1896. Age $43\frac{4}{7}$ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
2.43	11	1·66	·71		In bearing.
2·44	15	3·65	1·56	$\frac{1}{32}$	
2.44½	20	6·14	2·63	$\frac{2}{32}$	
2.45	23	7·63	3·27	$\frac{3}{32}$	
2.46	27	9·62	4·13	$\frac{4}{32}$	
2.47	35	13·61	5·84	[illegible]	Cracks in first and second courses at lines of closers.
2.48½	40	16·10	6·91	$\frac{6}{32}$	Crack centre of W. face, top course.
2.50	45	18·59	7·98		N.E. and S.W. corners, cracking down two courses.
	48	20·08	8·62	$\frac{7}{32}$	
2.51	50	21·08	9·05		Cracks extending down ten courses, and mortar dropping.
	53	22·57	9·69	$\frac{8}{32}$	
2.53	55	23·57	10·12		Cracks extending and bricks spalling.
	57	24·56	10·54	$\frac{9}{32}$	
	58	25·06	10·76	$\frac{10}{32}$	
3.1	59	25·56	10·97	$\frac{11}{32}$	Compression continued to [illegible] at same pressure and then the pier fell. (See fig. 7, p. 79.)

Pier No. 19.—Gault Bricks from Burham, Kent, in Lime Mortar 1 to 2.

6′ 0½″ high; 18⅛″ × 18″; sectional area 2·266 sq. ft.
Built 12th August 1895; crushed 12th June 1896. Age $43\frac{4}{7}$ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
3.33½	10	1·16	·52		In bearing.
	12	2·15	·95	[illegible]	
3.34½	15	3·65	1·61	[illegible]	
—	18	5·14	2·27	[illegible]	
3.35½	19	5·64	2·49	[illegible]	
—	23	7·63	3·36	[illegible]	
3.36½	26	9·12	4·02	[illegible]	
3.37½	30	11·12	4·94	[illegible]	
	37	14·60	6·44	[illegible]	Internal cracks heard.
3.41	43	17·59	7·76	[illegible]	
	47	19·58	8·61	[illegible]	
3.42½	50	21·08	9·30		E. side, fifth course from top, 7½″ from N.E. angle, crack.
3.44½	55	23·57	9·96	[illegible]	N. face, cracking in sixth, seventh, and eighth courses in line of closers.
—	61	26·55	11·71	[illegible]	
3.52	70	31·04	13·69	[illegible]	S. face, crack in eighth course at inner line of closers. N. face, crack down through tenth course about 5½″ from N.E. angle.
3.55	75	33·53	14·79	[illegible]	
3.58	80	36·02	15·89	[illegible]	S. face, crack extending downwards through twelfth course. N. face 4½″ from N.W. corner, split from top to eighth course, mortar falling. N. face, 4½″ from N.E. corner, crack through fourteenth, fifteenth, and sixteenth courses.
4.1¾	85	38·51	16·99	[illegible]	Crack in S.E. bottom angle two courses up. Spalling on E. face and mortar dropping on N. face.
4 4½	90	41·00	18·09	[illegible]	Pier cracking and spalling, mortar dropping.
4.6	93	42·49	18·75	$\frac{21}{32}$	Crack on S. face opening slightly.
4.8	97	44·48	19·63	$\frac{22}{32}$	Cracking up in several places on W. side, centre of height, joints crushing out generally.
—	99	45·48	20·07	$\frac{23}{32}$	
4.11	100	45·98	20·29	—	Crack in S.E. angle extending.
4.13¼	103	47·47	20·94	$\frac{24}{32}$	Cracks extending on W. side up and down from centre at both closers, joints near bottom crushing.
4.15	105	48·47	21·39	$\frac{25}{32}$	Cracks opening generally and bricks spalling.
4.17½	110	50·96	22·49	[illegible]	Gauge fell to 108, the spalling of bricks and dropping of mortar continuing steadily.
—	112	51·95	22·93	$\frac{27}{32}$	
4.21½	112	51·95	22·93	$\frac{29}{32}$	Bulged at six courses from top, a few bricks fell, momentary pause, and then collapse. Two pyramids were clearly formed. (See fig. 8, p. 79.)

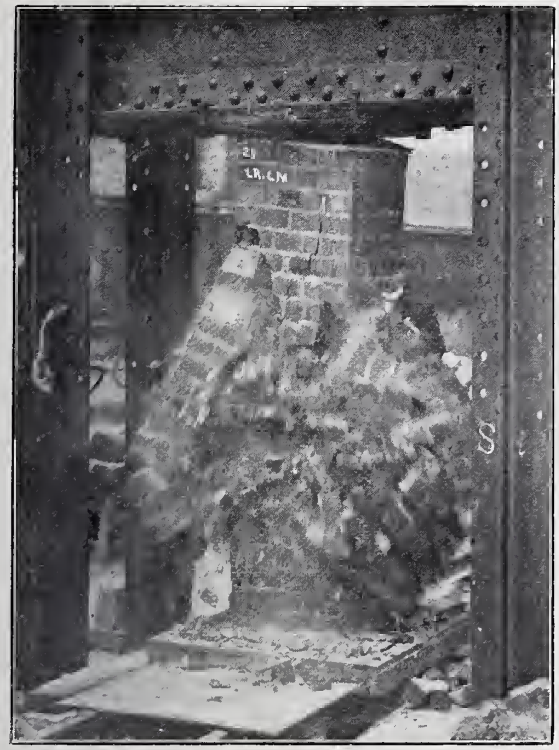

FIG. 11.—PIER 21 COLLAPSING.

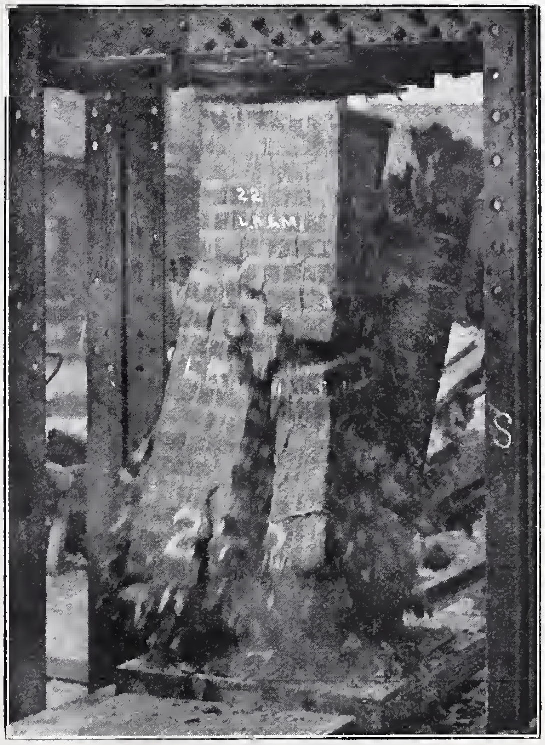

FIG. 12.—PIER 22 COLLAPSING.

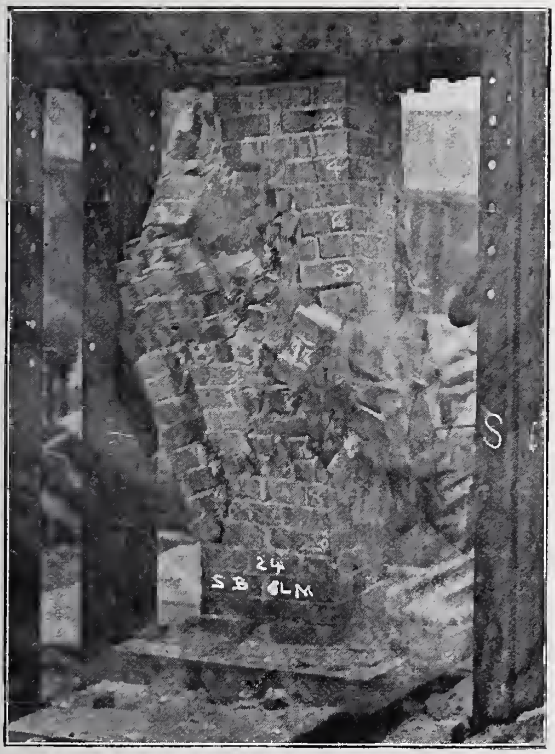

FIG. 13.—PIER 24 COLLAPSING.

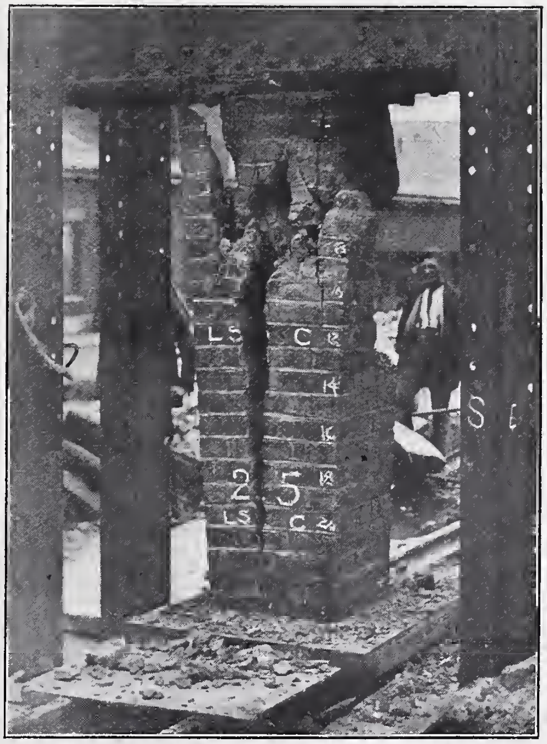

FIG. 14.—PIER 25 COLLAPSING.

As has already been stated in the Journal, the Committee are proceeding with a third series of experiments—namely, upon short lengths of wall built without closers, and of a more perfect bond than can be obtained with piers 18 inches square. The piers generally failed at the line of closers, while at the best the bond allowed a small continuous vertical joint in each of the angles. The work of cutting closers in hard bricks is so difficult that the workmen, when building some of the first lot of piers, committed the sin of inserting closers of soft bricks instead while the members of the Committee were absent. The lengths of wall now waiting the period of crushing have been carefully watched during building, and, whatever the results may be, there is little fear of their being prejudiced by bad workmanship.

When these further experiments are complete, the Committee will be in a position to make another and final report upon the whole series, and expect to be able to establish from the data derived from the experiments definite rules as to the safe loads for the various kinds of brickwork with which they have been dealing.

Meanwhile, it is interesting to note the great difference between the strength of bricks and of brickwork, the enormous disproportion being due to the quality of the material interwoven with the bricks as a means of uniting and holding the mass together. The effect

Pier No. 20.—Gault Bricks from Burham, Kent, in Lime Mortar 1 to 2.

6′ 0½″ high; 17⅞″ × 17⅞″; sectional area 2·219 sq. ft.
Built 10th August 1895; crushed 15th June 1896. Age 44$\frac{2}{7}$ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
10.34	10	1·16	·52	—	In bearing.
10.37½	11	1·66	·75	$\frac{3}{32}$	
—	14	3·15	1·42	$\frac{4}{32}$	
10.40	15	3·65	1·65	$\frac{5}{32}$	
—	19	5·64	2·54	$\frac{6}{32}$	
—	23	7·63	3·44	$\frac{7}{32}$	
10.41½	25	8·63	3·89	$\frac{8}{32}$	
—	33	12·61	5·68	$\frac{9}{32}$	
10.43	40	16·10	7·25	$\frac{10}{32}$	
10.43½	45	18·59	8·38	$\frac{11}{32}$	
10.44	50	21·08	9·50	—	Crack through stretcher at top, E. corner of S. face.
—	53	22·57	10·17	$\frac{12}{32}$	
10.45	55	23·57	10·62	—	Crack extended three courses down at line of closers; crack in seventh course down centre of S. face.
10.46½	60	26·06	11·74	—	Crack in top course, west corner of S. face.
—	61	26·55	11·97	$\frac{13}{32}$	Cracks in corners of top course on N. and W. faces.
10.48	65	28·55	12·86	—	Crack in eighth course through stretcher at E. corner of N. face.
10.49	70	31·04	13·99	$\frac{14}{32}$	Bed of sixth course N. face slightly squeezed out.
10.50	75	33·53	15·11	—	Audible internal crack, mortar falling, and slight spalling.
—	78	35·02	15·78	$\frac{15}{32}$	
10.53	80	36·02	16·23	—	Cracking downwards at lines of closers on N.W. and S. faces.
—	84	38·01	17·13	$\frac{16}{32}$	
10.55	85	38·51	17·35	—	Bricks spalling and cracking from top down to fourteenth course, and also crack on E. side in second course from bottom.
—	88	40·00	18·03	$\frac{17}{32}$	Pier specially distressed at S. corner of E. side near centre.
11.3	89	40·50	18·25	$\frac{18}{32}$	Pressure falling.
11.9	90	41·00	18·48	—	Pressure rising again.
11.10	95	43·49	19·60	$\frac{19}{32}$	Mortar dropping and joints opening.
—	98	44·98	20·27	$\frac{20}{32}$	Brick faces bursting out on E. side and pressure falling.
—	96	43·98	19·82	$\frac{21}{32}$	Pressure still falling.
11.12	80	36·02	16·23	$\frac{22}{32}$	Compressing rapidly and cracks opening. (See fig. 9, p. 79.)
11.15	—	—	—	—	Pier bulged out and fell. (See fig. 9, p. 79.)

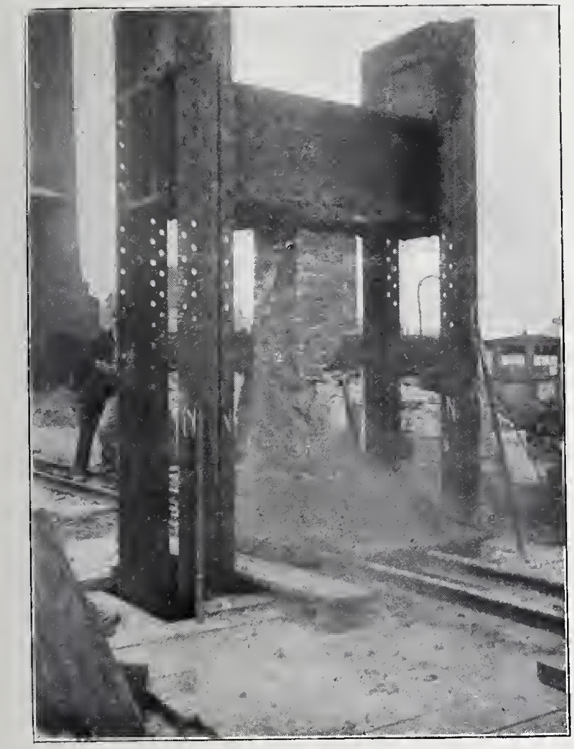

FIG. 15.—PIER 26 COLLAPSING.

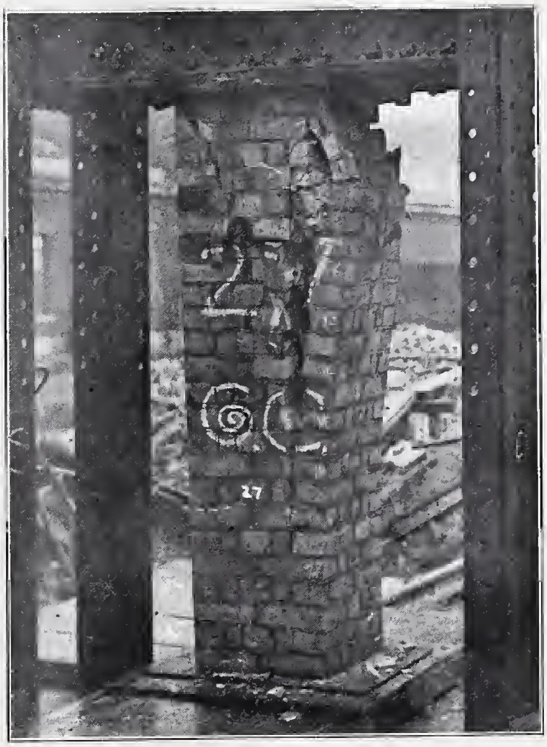

FIG. 16.—PIER 27 COLLAPSING.

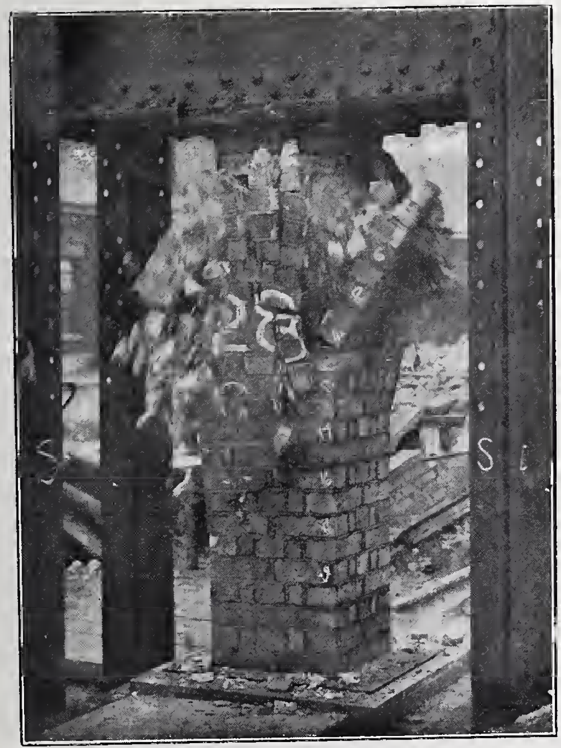

FIG. 17.—PIER 28 COLLAPSING.

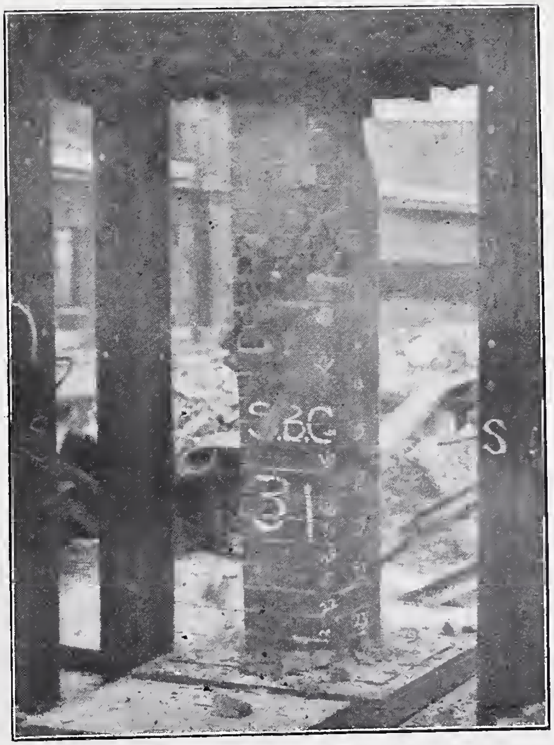

FIG. 18.—PIER 31 COLLAPSING.

upon different kinds of bricks is variable, owing to some bricks being more susceptible to adhesion than others. Again, if the mortar be imperfectly mixed, or the joints and beds of the brickwork imperfectly filled up, the injurious effect on strength is incalculable. It introduces unequal pressures in different parts of the body, and the work fails in detail until so much of the whole is destroyed that the remainder suddenly collapses. It is dull work trying to hammer-in the obvious, yet too much stress cannot be laid upon the care required in the selection, preparation, and application of mortar.

The diagrams [pp. 94, 95] showing the compression of the piers under the several pressures constitute a graphic representation of the gradual destruction of the mortar and brick-

Pier No. 21.—Red Bricks from Ellistown, near Leicester, in Lime Mortar 1 to 2.

6′ 0⅛″ high; 18⅛″ × 18⅛″; sectional area 2·281 sq. ft.
Built 13th August 1895; crushed 15th June 1896. Age 43⁶⁄₇ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
11.45	10	1·16	·51	—	In bearing.
—	12	2·15	·94	$\frac{1}{32}$	
—	15	3·65	1·60	$\frac{2}{32}$	
—	19	5·64	2·47	$\frac{3}{32}$	
—	24	8·13	3·56	$\frac{4}{32}$	
11.49	30	11·12	4·87	$\frac{5}{32}$	Mortar squeezing from top two joints, front crack existing before pressure applied.
11.50	40	16·10	7·06	$\frac{6}{32}$	
—	50	21·08	9·24	$\frac{7}{32}$	
11.51½	60	26·06	11·43	$\frac{8}{32}$	
—	72	32·03	14·04	$\frac{9}{32}$	
11.54½	78	35·02	15·35	—	Audible crack.
11.56½	80	36·02	15·79	$\frac{10}{32}$	
11.59	85	38·51	16·88	—	Spalling at eighth course from top on E. side.
—	88	40·00	17·53	$\frac{11}{32}$	
12.6¾	100	45·98	20·16	$\frac{12}{32}$	
12.9	110	50·96	22·34	—	Cracks from sixteenth to twenty-first course from top on E. and S. sides.
12.10	115	53·45	23·44	$\frac{14}{32}$	Crack six courses down S.E. corner on both faces. Cracking at bottom on S.W. corner three courses up on both faces. Spalling at seventeenth course from top E. face.
12.11	120	55·94	24·52	$\frac{15}{32}$	Audibly cracking. E. and S. sides, five courses from bottom, cracked through at 4½″ from N.E. and S.W. angles, and the fifth course from bottom cracked at centre.
12.12	125	58·43	25·62	$\frac{16}{32}$	S.E. top crack extended ten courses down at line of closers.
12.14	130	60·92	26·71	—	
—	133	62·41	27·36	$\frac{17}{32}$	
—	137	64·40	28·23	$\frac{18}{32}$	Cracking on E. face diagonally from N.E. corner at bottom up to ninth course, from closer to closer.
12.16½	140	65·90	28·89	$\frac{19}{32}$	Pier well damaged on all sides for about six courses from top.
12.19½	145	68·39	29·98	$\frac{20}{32}$	N. side, face of eighth course from top burst off close to N.E. corner.
12.20	150	70·88	31·07	—	Cracking and spalling all over.
12.21	155	73·37	32·16	$\frac{22}{32}$	E. face crippled for ten courses from bottom.
12.22½	160	75·86	33·26	$\frac{23}{32}$	Crushing well on S. face S.E. angle, sixth to tenth course up from bottom; pier 18½″ wide here.
12.24	163	77·35	33·91	$\frac{25}{32}$	Pieces falling at bulge.
12.24	165	78·35	34·35	—	Failing generally.
—	166	78 84	34·35	$\frac{26}{32}$	Gauge began to fall.
12.25½	164	77·85	34·13	$\frac{27}{32}$	
—	162	76·85	33·69	$\frac{28}{32}$	
—	160	75·86	33·25	$\frac{29}{32}$	
12·28	151	71·37	31·29	$\frac{30}{32}$	Bulged out all round and fell. Two pyramids clearly formed and a cone about seven courses high left after the fall. (See fig. 11, p. 81.)

⁂ The mortar was set, but not very hard or well mixed.

work. It will be readily appreciated that when a pier or wall is failing in detail, cross and tensile strains are occasioned locally that attack irresistibly the remaining strength. This is well demonstrated in the instances of the piers which have failed by bending and shearing.

There is, however, one comforting reflection, namely, that if a building is likely to collapse from want of strength, it is more likely to do so while the mortar is fresh and green than at a later date; that is to say, if the mortar once gets set and matured under its load, the building will live its life, a longer or a shorter one according to the character of the building—or, shall one say, of the builders? A few weeks ago, in taking down some buildings less than a hundred years old, the bricks could be lifted piecemeal by the hand, and an overturn of three or four feet of wall was sure to dislocate the whole of the bricks. On the other hand, in some buildings several centuries old the mortar-joints are hard as iron, the joints

Pier No. 22.—Red Bricks from Ellistown, near Leicester, in Lime Mortar 1 to 2.

6′ 0$\frac{1}{4}$″ high; 18$\frac{1}{4}$″ × 18$\frac{1}{8}$″; sectional area 2·297 sq. ft.
Built 13th August 1895; crushed 15th June 1896. Age 43$\frac{6}{7}$ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
2.5$\frac{1}{2}$	10	1·16	·50	—	In bearing.
2.7$\frac{1}{2}$	20	6·14	2·67	$\frac{1}{32}$	
—	27	9·62	4·19	$\frac{2}{32}$	
2.9$\frac{1}{2}$	35	13·61	5·93	$\frac{3}{32}$	Mortar squeezing out at frost crack.
2.10$\frac{1}{2}$	50	21·08	9·18	$\frac{4}{32}$	Audible internal crack.
2.11	60	26·06	11·34	$\frac{5}{32}$	Crack top S.W. angle, third course down W. face.
—	78	35·02	15·24	$\frac{6}{32}$	Beginning to spall second course down S.W. corner, W. face.
2.13	85	38·51	16·74	$\frac{7}{32}$	E. side, top brick next N.E. corner, bad crack $\frac{1}{2}$″ from corner. W. side, sixth course, face of brick coming off.
2.14	90	41·00	17·84	$\frac{8}{32}$	S.W. top crack W. face extended into fourth course down. Crack in N.W. bottom corner, W. face, up four courses. Crack S.E. corner, S. face in fourth course from top. Cracks in top courses on N. and E. faces. Crack in fourth course from bottom on E. face 6$\frac{1}{2}$″ from S.E. corner.
—	95	43·49	18·93	$\frac{9}{32}$	
—	107	49·46	21·53	$\frac{10}{32}$	
2.21	110	50·96	22·18	$\frac{11}{32}$	N. side, third course from top, flake.
2.24	120	55·94	24·35	$\frac{12}{32}$	Mortar dropping and bricks scaling.
	125	58·43	25·44	$\frac{13}{32}$	Cracks up six courses centre of S. face, and in fifth course from bottom on N. side, 5$\frac{1}{2}$″ from N.W. corner.
2.28	129	60·42	26·30	$\frac{14}{32}$	E. side, top course, spall $\frac{1}{2}$″ thick off brick at N.E. corner. Crack eight courses down on W. face at S. closer.
—	134	62·91	27·38	$\frac{15}{32}$	Mortar squeezing out of joints, and cracks opening.
2.35	136	63·90	27·81	$\frac{16}{32}$	E. and N. sides, spalls on angle, and crack on N. face, continuing down through sixth course, 6$\frac{1}{2}$″ from N.E. corner. W. face, crack in sixth course down centre.
—	148	69·88	30·42	$\frac{17}{32}$	E. side, 4$\frac{1}{2}$″ from N.E. angle, split down to seventh course from top; N. side, sixth course, next N.W. angle, spall 7″ long off lower edge.
2.43	152	71·87	31·28	$\frac{18}{32}$	Crushing at S.E. bottom angle, third to seventh courses up.
2.44	153	72·37	31·50	$\frac{19}{32}$	Gauge fell a little and then recovered.
2·46	160	75·86	33·02		
—	164	77·85	33·89		Cracks on E. face opening.
—	157	74·36	32·37		Pressure falling fast.
—	152	71·87	31·28	$\frac{20}{32}$ and continuing	
—	150	70·88	30·85		Chief cracks extending and many fine cracks developing.
2.50	130	60·92	26·51		
2.51	110	50·96	22·18		Pier fell, having failed slowly and steadily, and leaving a well-marked core about seven courses high. (See fig. 12, p. 81.)

⁂ Mortar set, but not very hard.

protruding beyond the masonry, the surface of which had fretted away by the action of the atmosphere during the ages elapsed since the structure was built.

The diagram [p. 95] representing the last experiment—that upon a brickwork pier built in sand—gives a good idea of the way in which brickwork would fail if exposed to fresh or additional loads after the mortar had perished and become thoroughly disintegrated.

Pier No. 23.—Blue Bricks from Rowley Regis, in Lime Mortar 1 to 2.

6′ 0″ high; 18$\frac{3}{8}$″ × 18″; sectional area 2·297 sq. ft.
Built 13th August 1895; crushed 15th June 1896. Age 43$\frac{6}{7}$ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
4.30	10	1·16	·50	—	In bearing.
4.32	20	6·14	2·67	$\frac{1}{32}$	
—	50	21·08	9·18	$\frac{3}{32}$	
—	70	31·04	14·11	$\frac{4}{32}$	
4.34	80	36·02	15·86	—	Top two courses cracked S. face.
4.3	85	38·51	16·74	$\frac{5}{32}$	Slight fall of mortar from joint faces.
4.34½	100	45·98	20·01	$\frac{6}{32}$	Crack five courses down S.E. angle, S. face, at closer.
5	110	50·96	22·18	$\frac{7}{32}$	Crack in fifth course down, E. face.
4.3	120	55·94	24·35	$\frac{8}{32}$	
4.36	130	60·92	26·51	$\frac{9}{32}$	E. side top course, 1″ from N.E. angle, vertical crack.
7	140	65·90	28·68	$\frac{10}{32}$	N. side, sixth bed, half face split off.
					Crack on S.E. corner, S. face, extended seven courses down.
4.37½	150	70·88	30·85	$\frac{11}{32}$	Mortar steadily giving.
4.38	160	75·86	33·02	$\frac{13}{32}$	Pier cracking in several places slightly.
4.39	170	80·84	35·19	$\frac{14}{32}$	
—	175	83·33	36·27	$\frac{15}{32}$	Crack bottom, S. face, three courses up in centre.
4.42	182	86·81	37·79	$\frac{16}{32}$	Faces of joints dropping off all over. E. face, eighth course down, closer nearest to N.E. angle spalled.
4.46	200	95·78	41·69	$\frac{17}{32}$	
4.47½	210	100·76	43·86	$\frac{19}{32}$	Bottom S. crack extended five courses up following joints.
4.49	220	105·74	46·03	$\frac{20}{32}$	
—	228	109·72	47·76	$\frac{21}{32}$	
4.50	230	110·72	48·19		E. side, fourth to twentieth course down, 4½″ from N.E. angle, crack continuous. Cracks in several places fourteenth course down.
4.52	238	114·70	49·93	$\frac{23}{32}$	E. side, tenth course down at centre, split through header.
4.52½	240	115·70	50·36		Cracks opening, and pier $\frac{1}{8}$″ wider.
—	245	118·19	51·45	$\frac{24}{32}$	
4.54	250	120·68	52·53	$\frac{25}{32}$	Cracking continuing, cracks joining up.
—	254	122·67	53·40	$\frac{26}{32}$	
—	265	128·15	55·78	$\frac{27}{32}$	
4.59½	280	135·62	59·05	$\frac{29}{32}$	Jerk in pier and loud crack.
5.1	290	140·60	61·20	$\frac{30}{32}$	Movements in pier and steady falling of mortar. Pier $\frac{1}{4}$″ wider.
—	295	143·09	62·30	$\frac{31}{32}$	
5.3	300	145·58	63·37	$\frac{32}{32}$	Pier well cracked all over.
5.4	310	150·56	65·54	$\frac{33}{32}$	
—	313	152·05	66·19	$\frac{34}{32}$	
—	319	155·03	67·48	$\frac{35}{32}$	
5.5	320	155·54	67·70	—	Cracked right down both closers, S. face.
—	327	159·02	69·22	$\frac{36}{32}$	
5.6½	330	160·52	69·89	$\frac{37}{32}$	
—	338	164·50	71·61	$\frac{38}{32}$	Pressure fell.
—	335	163·01	70·96	$\frac{39}{32}$ and continuing	N. face, covered with fine vertical splits.
5.8½	340	165·50	72·04		N.E. corner, twelfth to fifteenth course down, piece fell out, 3″ × 3″ × 4½″ on plan.
—	347	168·98	73·56		Gauge fell from this down to 200, when the pier collapsed. A portion about eight courses high with pyramidal top remained.

Pier No. 24.—Blue Bricks from Rowley Regis, in Lime Mortar 1 to 2.

6′ 0¼″ high; 18¼″ × 18½″; sectional area 2·345 sq. ft.
Built 9th August 1895; crushed 17th June 1896. Age $44\frac{5}{7}$ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
9.22	10	1·16	·49	—	In bearing. Crack in joints in courses four to six from top on E. face before pressure was applied.
—	20	6·14	2·52	$\frac{4}{32}$	
—	40	16·10	6·87	$\frac{6}{32}$	
—	65	28·55	12·17	$\frac{8}{32}$	
—	80	36·02	15·36	$\frac{9}{32}$	
9.34	90	41·00	17·48	—	
—	97	44·48	18·97	$\frac{10}{32}$	Mortar in top bed spalling.
9.39½	110	50·96	21·73	$\frac{11}{32}$	
—	125	58·43	24·93	$\frac{12}{32}$	
9.46	130	60·92	25·98	—	N. side, second course, vertical crack at centre joint.
—	140	65·90	28·10	$\frac{13}{32}$	Fifth course down, S. face, bed squeezing slightly.
—	147	69·38	29·59	$\frac{14}{32}$	Face of other mortar beds also squeezing out.
—	164	77·85	33·20	$\frac{15}{32}$	
9.52	170	80·84	34·47	$\frac{16}{32}$	Internal crack heard.
—	185	88·31	37·66	$\frac{17}{32}$	
9.54	190	90·80	38·72	—	Top five beds, S. face, crumbling.
—	194	92·79	39·57	$\frac{18}{32}$	
9.55	200	95·78	40·84	—	N. side, twelfth course, 4½″ from N.W. angle, vertical crack in brick.
—	201	96·27	41·05	$\frac{19}{32}$	Sharp crack heard and mortar dropping.
9.56½	210	100·76	42·97	$\frac{20}{32}$	W. face, top course, 2½″ from N.W. angle, vertical crack. Mortar falling freely from top five beds.
9.58	220	105·74	45·09	$\frac{21}{32}$	Crack S. face, E. angle, tenth to twelfth course, and W. angle fourteenth to twentieth course down.
—	225	108·23	46·15	$\frac{22}{32}$	
9.59½	240	115·70	49·34	$\frac{23}{32}$	N. side, third course, slight spall of centre header.
10.0	250	120·68	51·46	$\frac{24}{32}$	Sharp crack heard.
10.1	260	125·66	53·46	—	Crack W. face seventh to ninth course down N. angle.
10.2	270	130·64	55·58	—	E. face, ninth course down, 4½″ from S.E. angle, and also 4½″ from N.E. angle split; eleventh course, 4½″ from S.E. angle split.
—	272	131·63	56·13	$\frac{26}{32}$	
10.3¼	280	135·62	57·83	$\frac{27}{32}$	Crack two courses down S.W. angle. E. face, thirteenth course, spall. N. face, eighth course, 1½″ from N.E. angle split. N. face, tenth course, 5″ from N.E. angle split.
10.4½	290	140·60	59·96	$\frac{28}{32}$	N. face, diagonal crack developing from sixth course, at 7″ from N.W. angle to tenth course at 5″ from N.E. angle.
10.5½	300	145·58	62·08	$\frac{29}{32}$	N. side, 5½″ from N.W. angle, eighteenth course, vertical crack. Beds crumbling all over.
—	312	151·55	64·62	$\frac{30}{32}$	Slight jump of pier. E. side, ninth course, 4½″ from N.E. angle, two vertical cracks, $\frac{1}{16}$″ apart.
10.8½	320	155·54	66·32	$\frac{32}{32}$	N. side the diagonal crack slightly opening. Pier cracking and spalling at other places.
10.11½	325	158·03	67·39	—	Detached vertical cracks over all faces. E. face in best condition.
10.13	330	160·52	68·45	$\frac{33}{32}$	
10.16½	340	165·50	70·58	$\frac{35}{32}$	N.W. angle bulging at fifteenth bed, and N. face of header at angle fell off.
—	345	167·99	71·64	$\frac{36}{32}$	
—	349	169·98	72·49	$\frac{37}{32}$	
10.22	355	172·97	73·76	$\frac{38}{32}$	Loud cracks at short intervals.
—	350	170·48	72·70	—	Pressure falling.
10.26	340	165·50	70·58	—	Bricks spalling and cracks developing.
10.29	300	145·58	62·08	—	Pier shearing from south downwards towards north, and collapsed. A pyramid about eight courses high left at base. (See fig. 13, p. 81.)

Pier No. 25.—Stock Bricks from Sittingbourne, in Portland Cement Mortar 1 to 4.

6′ 0″ high; $18\frac{1}{4}'' \times 18''$; sectional area 2·281 sq. ft.
Built 1st August 1895; crushed 17th June 1896. Age $45\frac{6}{7}$ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
11.4	11	1·66	·73	—	In bearing. Cement very hard on face.
—	19	5·64	2·47	$\frac{1}{32}$	
—	24	8·13	3·56	$\frac{2}{32}$	
11.8	28	10·12	4·43	$\frac{3}{32}$	Bottom S.W. brick crushing at angle, due to winding in iron plate.
—	33	12·61	5·52	$\frac{4}{32}$	E. side, bottom course, N.E. corner crushing.
—	36	14·10	6·18	$\frac{5}{32}$	
—	43	17·59	7·71	$\frac{6}{32}$	
11.12½	50	21·08	9·24	$\frac{7}{32}$	N. side, bottom course, N.E. corner crushing. Crack up two courses, S.W. angle, through brick.
11.19	61	26·55	11·64	$\frac{8}{32}$	
11.26	70	31·04	13·61	—	N.W. corner, top brick split and flaked. Crack S.E. top at closer, S. face, four courses down.
11.28	75	33·53	14·70	$\frac{9}{32}$	
11.31	85	38·51	16·88	$\frac{10}{32}$	S.E. crack spreading down and out, eight courses down at closers.
11.33	90	41·00	17·97	—	E., W., and N. faces practically sound.
—	99	45·48	19·94	$\frac{11}{32}$	S.E. crack ten courses down.
11.37	105	48·47	21·25	—	E. side, sixth course, centre header crushing horizontally at centre. N. side, second to tenth course, 4½″ from N.E. angle, vertical crack.
11.39	110	50·96	22·34	$\frac{12}{32}$	Pressure falling.
—	108	49·96	21·90	$\frac{13}{32}$ and continuing	
11.41	102	46·97	20·59	—	Pier split and collapsed. (See fig. 14, p. 81.)

⁂ Cement was set hard, and adhered well to bricks. Near the heart of pier was some slight dampness.

Pier No. 26.—Stock Bricks from Sittingbourne, in Portland Cement Mortar 1 to 4.

6′ 0¼″ high; $18\frac{3}{16}'' \times 18\frac{7}{16}''$; sectional area, 2·328 sq. ft.
Built 1st August 1895; crushed 17th June 1896. Age $45\frac{6}{7}$ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
12.8	11	1·66	0·71	Through an accident in setting the gauge, the compression notes are useless.	In bearing.
—	46	19·08	8·19		N. face, top course, split and spalled at N.W. corner.
12.12½	50	21·08	9·05		N. face, end of header shattered, and closer spalling a little. Crack top S.W. angle in brick; iron plate bearing on this point. S.E. angle free.
12.19	70	31·04	13·33		Crack four courses up at bottom, in centre of W. face. E. face, top N.E. corner, spalled at angle. N. face, first and second courses, 2″ from N.W. angle, vertical split.
12.21	80	36·02	15·47		Crack nine courses up; S. face, S.W. angle at closer. N. face, a crack starting at eighth course from bottom, 4½″ from N.W. angle, and extending to bottom of pier at 7½″ from N.W. angle.
12.22	85	38·51	16·54		Last mentioned crack continuing upwards to eighth course from top, and opening Other cracks opening $\frac{3}{16}$.
12.23½	87	39·50	16·96		New cracks developing and pressure falling.
12.25	75	33·53	14·40		Collapse. (See fig. 15, p. 83.)

⁂ The top eleven courses practically solid, and an approximate but ill-formed cone at bottom. The iron plate at bottom was in winding ¼″; but this does not appear to have affected the ultimate collapse. The cement was set, but some vertical joints were not properly filled.

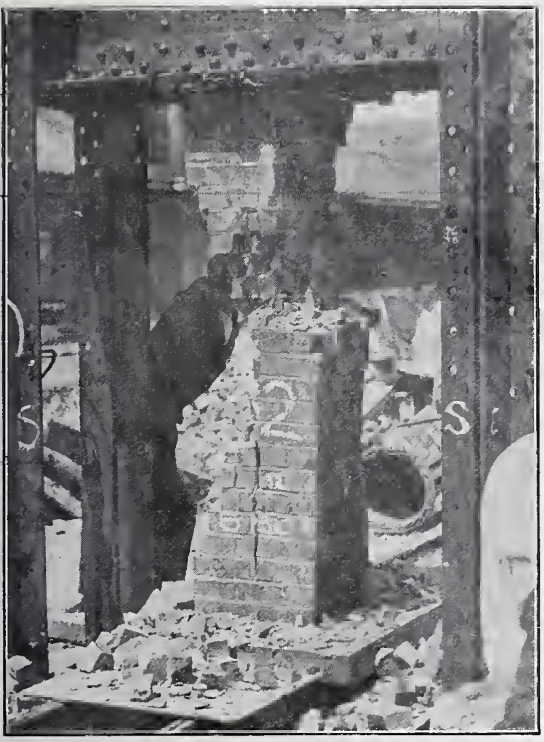

FIG. 19.—PIER 32: PAUSE IN COLLAPSE.

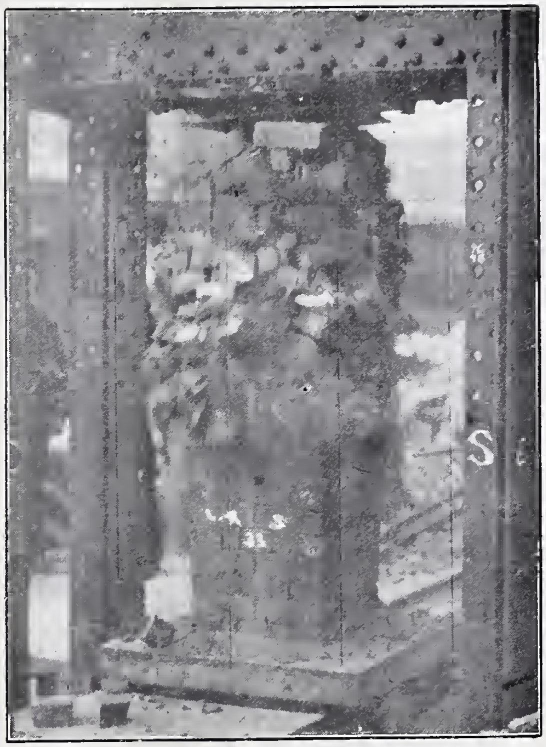

FIG. 20.—PIER 33 BURSTING.

Pier No. 27.—Gault Bricks from Burham, Kent, in Portland Cement Mortar 1 to 4.

6′ $0\frac{3}{8}$″ high; $18\frac{3}{8}$″ × $18\frac{1}{8}$″; sectional area 2·313 sq. ft.
Built 1st August 1895; crushed 17th June 1896. Age $45\frac{6}{7}$ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
$2.5\frac{1}{2}$	10	1·16	0·50	—	In bearing.
2.7	35	13·61	5·88	$\frac{1}{32}$	
$2.7\frac{1}{4}$	40	16·10	6·96	$\frac{2}{32}$	
—	60	26·06	11·22	$\frac{3}{32}$	
2.8	70	31·04	13·37	$\frac{4}{32}$	
—	80	36·02	15·57	—	
$2.10\frac{1}{2}$	93	42·49	18·37	$\frac{5}{32}$	E. face, N.E. corner, first to third course cracked, and N. face at the corner coming off. N. face, $7\frac{1}{2}$″ from N.F. corner, fourth to twelfth courses split; also at $4\frac{1}{2}$″ from E. top to seventh course split; also close to N.E. angle, fourth course, five vertical splits in stretcher (all N. face).
2.13	100	45·98	19·87	—	E. face, top four courses split.
2.14	105	48·47	20·95	$\frac{6}{32}$	
$2.15\frac{1}{2}$	110	50·96	22·03	—	Cracks on N. and S. faces extending and opening, W. face still sound.
2.24	125	58·43	25·26	$\frac{7}{32}$	Crack on S. face opening $\frac{5}{16}$; N.E. corner bulging from top to eighth course, crack open $\frac{3}{16}$; N. face five courses spalling.
2·26	128	59·92	25·90	$\frac{8}{32}$	Pressure falling.
2.29	125	58·43	25·26	—	Pier crippled at N.E. corner for upper half of its height.
$2.31\frac{1}{2}$	127	59·42	25·68	$\frac{10}{32}$	
2.36	130	60·92	26·33	—	Movements in pier.
$2.38\frac{1}{2}$	127	59·42	25·68	—	Pier generally crippled and quietly moving.
2.40	120	55·94	24·18	—	Pier split down and opened. A rough cone formed at top. (See fig. 16, p. 83.)

⁂ The cement was set and hard, but slightly moist where much in bulk at heart of pier.

Pier No. 28.—Gault Bricks from Burham, Kent, in Portland Cement Mortar 1 to 4.

6′ 0¾″ high; 18⅜″ × 18¼″; sectional area 2·329 sq. ft.
Built 1st August 1895; crushed 17th June 1896. Age 45$\frac{6}{7}$ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
3.8½	11	1·66	0·71		In bearing.
—	14	3·15	1·35	$\frac{1}{32}$	
—	16	4·14	1·77	$\frac{2}{32}$	
3.11½	20	6·14	2·63	$\frac{3}{32}$	
—	29	10·62	4·55	$\frac{4}{32}$	
3.15	40	16·10	6·91	$\frac{5}{32}$	
—	63	27·55	11·82	$\frac{6}{32}$	
—	86	39·00	16·74	$\frac{7}{32}$	
3.29	110	50·96	21·88	—	Pier sound up to this pressure; when on W face, top course, ¼″ from N.W. angle, a vertical crack appeared.
3.30	115	53·45	22·94	—	Crack four courses down S. face at E. closer.
—	119	55·44	23·80	$\frac{8}{32}$	
3.33½	125	58·43	25·08	—	Additional cracks at top on S.W. and E. faces, but the N. face still sound.
3.43	140	65·90	28·29	$\frac{9}{32}$	A sharp crack heard, and cracks appearing on N. face at top.
3.46½	150	70·88	30·43	—	S.E. crack extended twelve courses down and opening slightly.
3.50	165	78·35	33·64	$\frac{10}{32}$	Pressure rapidly falling. Sides were crippled, bulged gently, and faces fell out. Then, after a pause, the top cone fell. (See fig. 17, p. 83.)

⁂ Cement set and adhering well to bricks, but not quite dry in heart of pier. Joints near top of pier not well flushed up.

Pier No. 29.—Red Bricks from Ellistown, near Leicester, in Portland Cement Mortar 1 to 4.

6′ 0¼″ high; 18⅛″ × 18⅜″; sectional area 2·313 sq. ft.
Built 1st August 1895; crushed 17th June 1896. Age 45$\frac{6}{7}$ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
4.20	12	2·15	0·92		In bearing.
4.21	20	6·14	2·65	$\frac{1}{32}$	
4.22	30	11·12	4·80	$\frac{2}{32}$	
—	38	15·10	6·52	$\frac{3}{32}$	
4.23½	50	21·08	9·11	$\frac{4}{32}$	
—	68	30·04	12·98	$\frac{5}{32}$	
—	93	42·49	18·37	$\frac{6}{32}$	
4.32	120	55·94	24·18	$\frac{7}{32}$	E. face, bottom course, flake off closer nearest to S.E. angle.
4.33½	130	60·92	26·33	—	Crack two courses down S. face, top S.E. corner.
4.35	140	65·90	28·49	—	Cracks four courses down S.W. top corner at closers.
—	167	79·34	34·30	$\frac{8}{32}$	
4.49	200	95·78	41·40	$\frac{9}{32}$	Slight crushing of bottom bed on iron plate.
4.54	220	105·74	45·71	—	Cracks developing and opening slightly.
—	230	110·72	47·86	$\frac{10}{32}$	
—	—	—	—	$\frac{11}{32}$	Compression continuing without increase of pressure.
5.2	170	80·84	34·95	—	Pressure falling, pier crippled generally at centre of each face, and final collapse very sudden.

⁂ Cement set and adhering well to bricks.

Pier No. 30.—Red Bricks from Ellistown, near Leicester, in Portland Cement Mortar 1 to 4.

$6' \ 0\frac{1}{4}''$ high ; $18\frac{1}{8}'' \times 18\frac{5}{16}''$; sectional area 2·305 sq. ft.
Built 1st August 1895 ; crushed 19th June 1896. Age $46\frac{1}{7}$ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
9.36	10	1·16	0·50	—	In bearing. S.E. top corner free; top in winding for 6″ on E. face and 6″ on S. face.
—	17	4·64	2·01	$\frac{2}{32}$	
—	19	5·64	2·44	$\frac{3}{32}$	
—	25	8·63	3·74	$\frac{4}{32}$	
—	29	10·62	4·60	$\frac{5}{32}$	
9.40	40	16·10	6·98	$\frac{6}{32}$	
—	50	21·08	9·14	$\frac{7}{32}$	
—	64	28·05	12·16	$\frac{8}{32}$	
$9.41\frac{1}{2}$	70	31·04	13·46	—	Small spalls at bottom on E. face.
$9.42\frac{1}{2}$	80	36·02	15·62	$\frac{9}{32}$	
9.45	90	41·00	17·78	—	Crack through S.W. bottom angle brick.
$9.47\frac{1}{2}$	100	45·98	19·94	$\frac{10}{32}$	Crack through second course from S.W. angle at closer.
$9.51\frac{1}{4}$	110	50 96	22·10	—	Bricks split at bottom of pier and the bed (on plate) distressed at N.E. and S.W. corners, owing to faulty top bed.
$9.56\frac{1}{2}$	120	55·94	24·26	$\frac{11}{32}$	Crack in third course down centre of S. face in header; small cracks in top and bottom courses N. and E. faces.
$10.4\frac{1}{2}$	144	67·89	29·45	—	Top crack on S. face five courses down, running eastward, and in centre of header.
$10.8\frac{1}{2}$	150	70·88	30·75	—	S.W. bottom crack three courses up on S. and W. faces.
$10.11\frac{1}{2}$	160	75·86	32·91	$\frac{12}{32}$	N.E. angle of top course coming out. N. face, bottom course, face of brick next N.E. angle much damaged, spalled, and cracked; mortar crushing out second joint S.W. angle.
$10.26\frac{1}{2}$	178	84·82	36·79	$\frac{13}{32}$	
$10.27\frac{1}{2}$	180	85·82	37·23		
10.42	200	95·78	41·55	—	E. face, bottom course, whole face split off; N. face ditto for $7\frac{1}{2}''$ from N.E. angle.
10.45	194	92·79	40·25	—	Gauge fell to 194.
$10.47\frac{1}{2}$	200	95·78	41·55		
10.57	230	110·72	48·03	$\frac{14}{32}$	Slight movement at top N.E. angle.
$10.58\frac{1}{2}$	250	120·68	52·35	$\frac{15}{32}$	Small pieces falling.
—	253	122·17	53·00	—	Pressure falling.
—	240	115 70	50·19	$\frac{16}{32}$	
—	230	110·72	48·03	$\frac{17}{32}$	Pier opened suddenly and evenly from the top towards N.E. and W., but only a small angle fell towards the S.

⁂ A pyramid at the top was visible from the S. as the pier fell. There was a poorly formed pyramid at the bottom four courses high. Stock bricks used as closers in several places in five bottom courses.

Pier No. 31.—Blue Bricks from Rowley Regis, in Portland Cement Mortar 1 to 4.

6′ 0½″ high; $13\frac{9}{16}$″ × 13½″; sectional area 1·271 sq. ft.
Built 31st July 1895; crushed 19th June 1896. Age $46\frac{2}{7}$ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
11.27	10	1·16	0·91	—	In bearing.
11.29	20	6·14	4·83	$\frac{1}{32}$	
11.30½	40	16·10	12·66	$\frac{2}{32}$	
11 31	60	26·06	20·50	—	Slight sound.
11.31½	70	31·04	24·42	$\frac{3}{32}$	Ditto.
11.32	90	41·09	32·25	—	Ditto.
11.32½	100	45·98	36·17	—	Sharp audible crack.
11.35	101	46·47	36·56	—	Audible crack and slight visible jump of pier. Crack in second course up S.E. angle.
11.37	105	48·47	38·13		Crack three courses down S.E. top, 4½″ from E. face.
11.39	113	52·45	41·26	$\frac{4}{32}$	
11.39½	120	55·94	44·01	—	Top crack four courses down.
11.40½	130	60·92	47·93	—	Top crack five courses down.
11.41½	140	65·90	51·84	$\frac{5}{32}$	Small cracks in top and bottom courses.
11.45	180	85·82	67·52	[illegible]	Cracks opening.
					N.E. corner at top, showing several cracks, continuing downwards.
11.46¾	210	100·76	79·27	$\frac{8}{32}$	
11.47	220	105·74	83·19	[illegible]	
—	235	113·21	89·07	—	E. side crippled from second down to seventh course. N. side split from top to twelfth course, 4½″ from N.E. angle.
11.49½	240	115·70	91·03	—	Pier bending slightly, convexity towards W.
—	242	116·69	94·80	—	Pressure began to fall.
—	200	95·78	75·35	—	Pier burst quickly. (See fig. 18, p. 83.)

⁂ The N.W. angle suffered most, only three courses of that angle remaining standing. The damage to the bricks was very fairly distributed and general; only about half a dozen bricks remained whole.

Pier No. 32. Blue Bricks from Rowley Regis, in Portland Cement Mortar 1 to 4.

6′ 0¼″ high; 18″ × 18¼″; sectional area 2·282 sq. ft.
Built 27th July 1895; crushed 19th June 1896. Age $46\frac{6}{7}$ weeks.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
12 15	13	2·65	1·16	—	In bearing.
12.21½	110	50·96	22·33	$\frac{1}{32}$	
12.27	160	75·86	33·24	—	Slight sounds at top N.E. corner, and movement of plaster cap.
12.28	170	80·84	35·12	[illegible]	Sound of crack. Hair cracks in top course N.E. angle.
—	178	84·82	37·16		Crack four courses up centre S. face.
12.33	200	95·78	41·97	—	Sharp audible crack. Crack eight courses up centre N. face; also two bottom courses split at centre N. face.
—	205	98·27	43·06	[illegible]	
12.35	210	100·76	44·15	—	Top N.E. corner, cracks extending to second course.
12.38½	230	110·72	48·51	—	Sharp audible cracking sounds.
12.39	240	115·70	50·70	—	N. face, ninth course from bottom, 7½″ from N.E. angle, vertical split.
12.39½	250	120·68	52·88	—	N. face, ninth course from bottom, continuing downwards and getting nearer to centre line of face.
12.40	260	125·66	55·06	$\frac{4}{32}$	N. face, ninth course, split now extending right down to bottom of pier at centre of N. face.
					Crack on S. side extended up to centre of pier.
12.40½	270	130·64	57·24	—	Crack on N. side extended up to centre of pier.
12.41½	290	140·60	61·61	$\frac{5}{32}$	
—	310	150·56	65·97	—	E. face, third course from top, 4½″ from N.E. angle, split.
12 44	340	165·50	72·52	$\frac{7}{32}$	Spalling at top. Pier split right down centre N. and S. faces.
—	343	166·99	73·17	$\frac{8}{32}$	Pressure fell.
—	310	150·56	65·97	—	N. face, N.E. corner, face off three top courses.
—	280	135·62	59·43	—	Chief splits open ¼″.
—	270	130·64	57·24	—	Still opening on N. and S. faces, but E. and W. sides fairly sound.
12.47½	310	150·56	65·97	—	Rapid falling of small spalls followed by collapse. (See fig. 19, p. 89.)

⁂ The closers were found to be all stocks: no blue brick closers could be found in the interior of this pier! Cement adhered fairly well.

Pier No. 33.—Red Bricks from Ellistown, near Leicester, built in Sand.

5′ 11⅜″ high; 18″ × 17⅞″; sectional area 2·234 sq. ft.
Built and crushed 19th June 1896.

Time	Pressure on gauge. Pounds per square inch	Total real pressure in tons	Pressure per square foot of pier in tons	Compression in inches	Notes
4.30	13	2·65	1·18	—	In bearing.
4.31	16	4·14	1·85	$\frac{4}{32}$	
—	18	5·14	2·30	$\frac{6}{32}$	
4.31½	20	6·14	2·74	$\frac{8}{32}$	Spread out ¼″ wider at centre of height.
—	23	7·63	3·41	$\frac{12}{32}$	
—	25	8·63	3·86	$\frac{14}{32}$	
—	27	9·62	4·30	$\frac{16}{32}$	
4.33	30	11·12	4·97	$\frac{18}{32}$	Inside brick heard to break. Crack in eleventh course S.W. angle brick S. face, and six courses down W. side. S.W. closer line.
—	32	12·11	5·42	$\frac{20}{32}$	
—	34	13·11	5·86	$\frac{22}{32}$	Cracks S. face, eleventh and fifteenth courses, at each closer. Pier ⅜″ wider.
—	39	15·60	6·98	$\frac{24}{32}$	
4.36	40	16·10	7·20	—	Crack S. face, S.E. bottom angle, closer line. N. face, seventh course, 4½″ and 7″ from N.W. angle, splits.
4.37¼	44	18·09	8·09	$\frac{28}{32}$	Crack on W. face open $\frac{5}{16}$″ wide.
—	47	19·58	8·76	$\frac{30}{32}$	Breaks heard; visible movements in the pier. N. face, seventh course, 8″ from N.E. angle, split.
4.39	50	21·08	9·43	$\frac{32}{32}$	N. face, ninth course, 4½″ from N.W. angle, continuation of the split noted at 40 lb. E. face, fourth, fifth, sixth, seventh, and eighth courses, irregularly split. S. face, cracks in fourth, seventh, and eighth courses.
4.40½	56	24·06	10·76	$\frac{34}{32}$	N. face, thirteenth course, 3″ from N.W. angle, split. W. crack down ten courses.
—	58	25·06	11·21	$\frac{36}{32}$	
4.42	60	26·06	11·66	$\frac{39}{32}$	N. face, third course, 4½″ from N.E. angle, split.
—	62	27·05	12·10	$\frac{40}{32}$	
4.43	65	28·55	12·77	$\frac{42}{32}$	E. face, fifth to eighth course, at 4½″ from S.E., bad state; split open ½″. S. face, two cracks down eleven courses, branching from crack at top. Pier 1″ wider at eighth course.
—	65	28·55	12·77	$\frac{44}{32}$	E. face, seventh to eleventh course, at 4½″ from N.E. angle, split.
4.46	70	31·04	13·89	—	Very steady run of sand from seventh bed. S. crack thirteen courses down at W. angle. Pressure falling, pier bulging.
—	75	33·53	15·00	—	Cracks on S. face, sixteen courses down. Pier 2″ wider at eighth course. W. face of pier straightened, somewhat reducing bulge.
—	68	30·04	13·44	—	
—	75	33·53	15·0	—	Sand running freely from twelfth to fourteenth beds.
4.50	68	30·04	13·44	—	Crushed and fell, bulging out most at seventh course; eight bottom courses left standing. (See fig. 20, p. 89.)

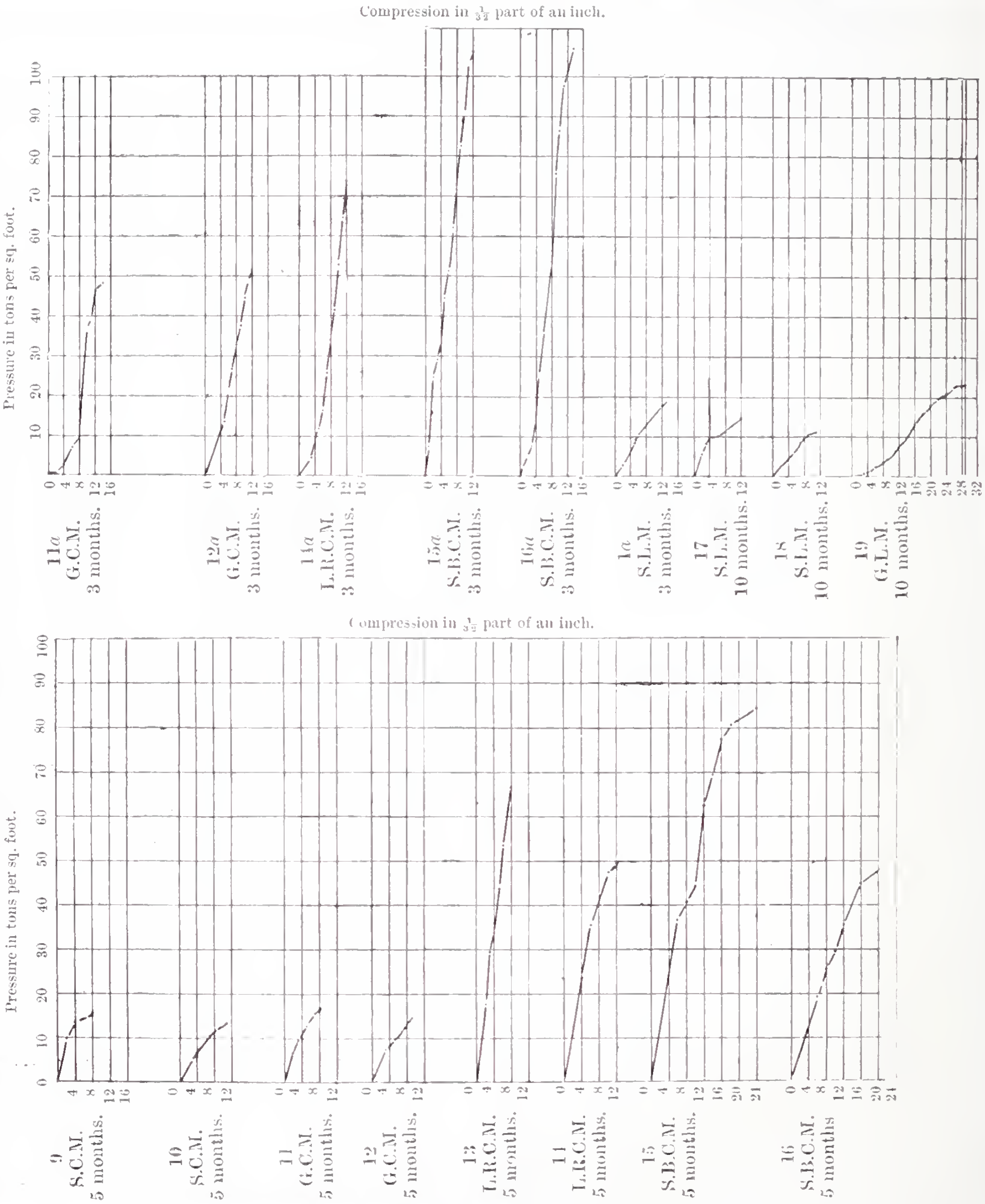

FIG. 21.—COMPRESSION OF PIERS PREVIOUS TO COLLAPSE.

Though, as before stated, it is not now intended to dogmatise upon the results of the unfinished series of experiments, a table has been prepared [p. 96] showing the results of the crushing of each of the piers, and the averages obtained from the different classes of brickwork. It will be readily noticed, in looking down the columns, that something must have greatly disturbed these averages, as it would, for instance, be absurd to expect some of the descriptions to be weaker at ten months than at four. The cause, however, is not far to seek. The piers built as substitutes for those which the Committee found badly built

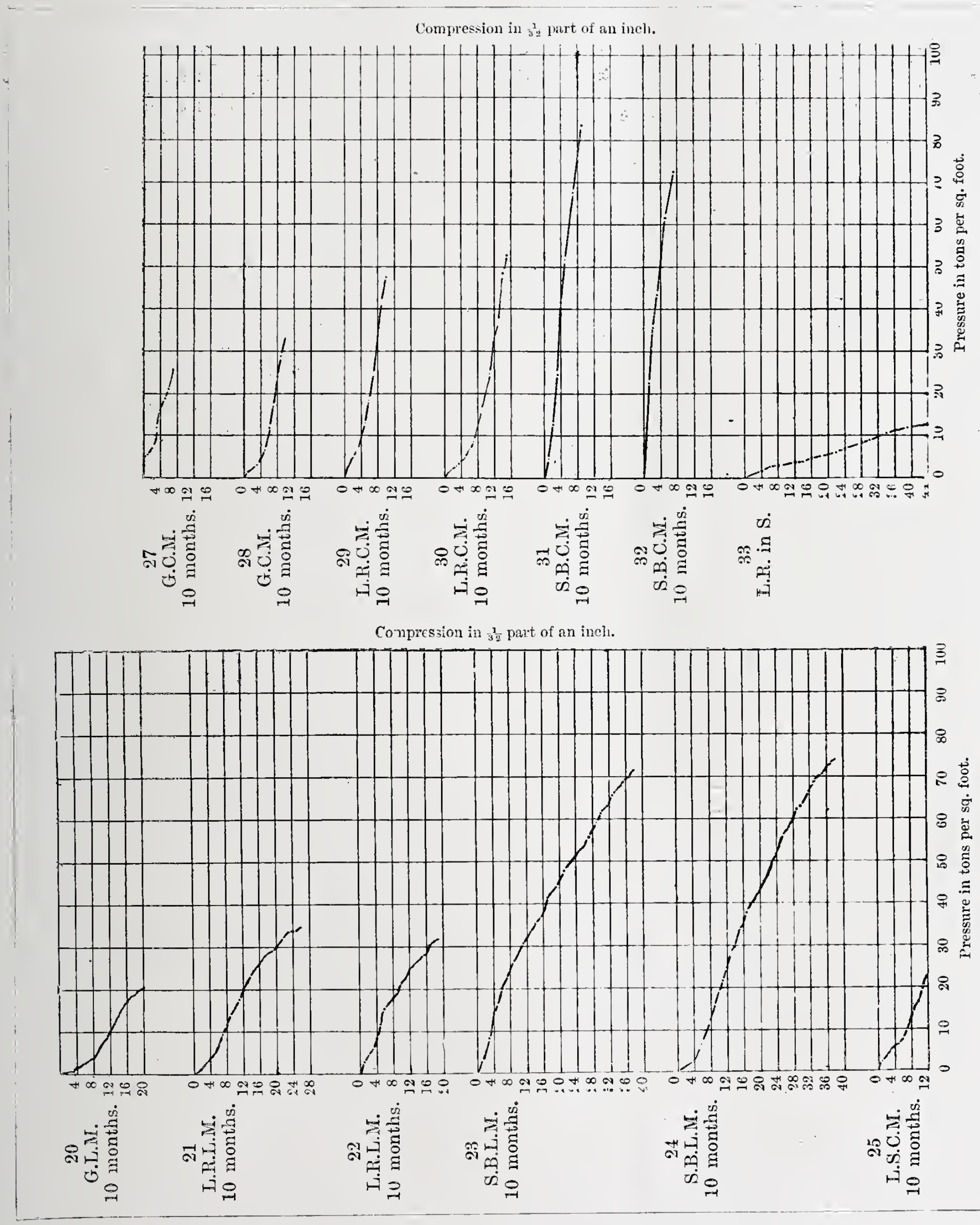

FIG. 22.—COMPRESSION OF PIERS PREVIOUS TO COLLAPSE.

in the first series were so superior to any of those reserved for the ten months' test that they raised the average for four months to beyond that obtained for the piers crushed at ten months. Taking therefore the original piers as specimens of what might be got in ordinary practice, one ought perhaps to reduce the averages to approximate to those obtained in the first instance from indifferent, which is indeed the ordinary manner of building.

Since writing the foregoing, the Committee have received from the Sheffield Society of Architects a report upon the samples sent them of the varieties of brick used by the Committee, Crushing Loads in Tons per Square Foot.

—	Stocks			Gaults			Leicester Red			Staffordshire Blue		
Bricks crushed at			average 84·27			average 182·20			average 362·10			average 701·10
Brickwork in lime, 3 to 4 months	No. 2.	10·41		No. 3.	21·82		No. 5.	29·93		No. 7.	69·22	
Ditto ditto ditto	,, 1*a*.	18·28	14·34	,, 4.	22·03	21·92	,, 6.	31·55	30·74	,, 8.	79·39	74·30
Ditto ditto 10 months	No. 17.	14·11		No. 19	22·93		No. 21.	34·35		No. 23.	73·56	
Ditto ditto ditto	,, 18.	10·97	12·54	,, 20.	20·27	21·60	,, 22.	33·89	34·12	,, 24.	73·76	73·66
Ditto in cement, 3 to 4 months	No. 9.	16·03		No. 11.	18·07		No. 13.	67·36		No. 15.	84·47	
Ditto ditto ditto	,, 10.	13·83	14·93	,, 12.	17·51		,, 14.	49·54		,, 16.	61·14	
Ditto ditto ditto				,, 11*a*.	48·10		,, 14*a*.	86·39		,, 15*a*.	108·25	
Ditto ditto ditto		—		,, 12*a*.	51·05	33·68			67·76	,, 16*a*.	97·90	87·94
Ditto ditto 10 months	No. 25.	22·34		No. 27.	26·33		No. 29.	47·86		No. 31.	91·80	
Ditto ditto ditto	,, 26.	16·96	19·65	,, 28.	33·64	29·98	,, 30.	53·00	50·43	,, 32.	73·17	82·48
Ditto in sand					—		,, 33.		15·00		—	

and a comparison between them and some varieties of Sheffield stocks crushed at the same time. The tests were made in a manner and with an exactness that left nothing to be desired, though it would appear that the machine at Professor Ripper's disposal was not sufficiently powerful to crush the Blue Bricks. Two of the descriptions of Sheffield stocks so tested proved to be half as strong again as an ordinary London stock, while a third was two and a half times as strong. Want of space forbids the publication of the report here, but an abstract appeared in last week's *Builder*, p. 495. There is a column appended to the Sheffield report which, in the opinion of the Committee, is unnecessary and misleading, and which is disposed of by the table annexed. The column referred to states the height of a building in feet to crush lowest bricks. It does not state how it would be proposed to build to the heights given in that column, but if with lime mortar and in an ordinary manner the figures given should be divided by seven or thereabouts to give the ratio between the resistance of bricks and of brickwork to crushing. The result thus obtained should be again divided by three, or some such figure, to arrive at a safe load or height. It will be urged that no wall of any great height would be built of the same thickness all the way up, and the pressure would be reduced by the distribution of the weight upon increasing areas, so that instead of dividing the heights given in the Sheffield report by twenty-one, it would in practice be sufficient to divide by ten. But even then no allowance is made for any weights the wall would be expected to carry, nor for the influences which the form, the length, and the thickness of the wall might have upon its strength.

THE SECOND SERIES OF BRICKWORK TESTS: APPENDICES.

By Professor UNWIN [*H.A.*], F.R.S.

I.—DETERMINATION OF THE LOADS CORRESPONDING TO THE OBSERVED GAUGE PRESSURES FOR THE LARGE HYDRAULIC PRESS AT THE WEST INDIA DOCKS.

Some cylinders were prepared of good uniform copper rod. They were made very exactly as to diameter and length. Two of these were subjected to careful tests in a testing machine, and the compressions corresponding to different loads noted. Exactly similar copper cylinders were then crushed in the large hydraulic press at the West India Docks, and the compressions at different gauge pressures noted. Comparison of the testing-machine loads and gauge pressures for equal compressions of the cylinders gives the true effective crushing effort of the hydraulic press.

Two sizes of copper cylinders were used, about 0·94 and 1·10 inch diameter, and 1·88 and 2·13 inches in length respectively. They were placed in a crusher gauge between parallel steel surfaces. The load was applied through a spherical joint.

Fig. 23 shows the compression curves for two cylinders tested at Kensington in the 100-ton testing machine. The circles for the smaller cylinder, 1,681, and the crosses for the larger cylinder, 1,687, mark the observed compressions and loads. These points agree so closely with the curves that it appeared to be unnecessary to make further observations. The earlier compressions are elastic compressions, and are proportional to the loads. Beyond about 10 tons for the smaller and 17½ tons for the larger cylinder the compressions are plastic compressions and are much larger. The compressions were read to 1/1000th of an inch by an accurate vernier gauge. After the trials of the brick piers at the West India Docks on 31st December 1895 two similar copper cylinders were crushed in the hydraulic press, and the compressions corresponding to different gauge pressures were noted.

The following table gives the results of the observations:—

I.—Hydraulic Press at West India Docks, 31st December 1895.

Compression of two Copper Cylinders { Cylinder 1,688, diam. = 1·097″, length = 2·132″.
" 1,683, diam. = 0·938″, length = 1·879″.

Pressure by gauge. Pounds per sq. in.	Cylinder 1,688		Cylinder 1,683	
	Micrometer reading in inches	Compression in inches	Micrometer reading in inches.	Compression in inches
10	2·582	—	2·291	—
15	—	—	2·288	·003
20	2·581	·001	2·282	·009
25	2·580	·002	—	—
30	2·577	·005	2·274	·017*
40	2·570	·012	2·061	·230
50	2·456	·126	1·796	·495
60	2·209	·373	1·594	·697
70	2·005	·577	—	—
80	1·816	·766	1·293	·998
90	1·670	·912	—	—
100	1·558	1·024	—	—
110	1·468	1·114	—	—
130	1·355	1·227*	—	—

* The ram, in consequence of an air cushion in the press, moved not quite regularly, but in small jerks. Hence absolutely consistent results could not be expected. I think these two results the least regular and satisfactory of the series, and I have given less weight to them in calculating formula (2).

During the second series of tests two other copper cylinders were crushed in the hydraulic press, and the compressions at different gauge pressures noted. Table II. gives the results:—

II.—Hydraulic Press at West India Docks, 15th June 1896.

Compression of two Copper Cylinders { Cylinder 1,689, diam. = 1·094″, length = 2·133″.
,, 1,690, diam. = 1·094″, length = 2·132″.

Pressure by gauge. Pounds per sq. in.	Cylinder 1,689		Cylinder 1,690	
	Micrometer reading in inches	Compression in inches	Micrometer reading in inches	Compression in inches
20	2·350	—	1·454	—
30	2·338	·012	1·435	·019
40	2·322	·028	1·420	·034
50	2·078	·272	1·209	·245
60	1·832	·518	0·961	·493
70	1·637	·713	0·767	·687
80	1·440	·910	0·590	·864
90	1·342*	1·008	0·461	·993
100	—	—	0·353	1·101
110	—	—	0 255	1·199

* A correction of ·065 inch has been added to this reading as an allowance for the bending of the plate to which the measurements were taken.

Some observations were taken at higher gauge pressures, but on plotting the results they appeared to be irregular. It was found that with the higher pressures the plunger of the compression apparatus had become slightly bent. The friction of the bent plunger in the apparatus was quite sufficient to explain the anomalies.

By using the plotted curve of loads and compressions [fig. 23] it is now possible to tabulate the true loads corresponding to the observed gauged pressures for each of the four cylinders crushed in the hydraulic press. Tables III. and IV. give the relation of gauge pressures and loads, thus obtained, for 31st December and 15th June.

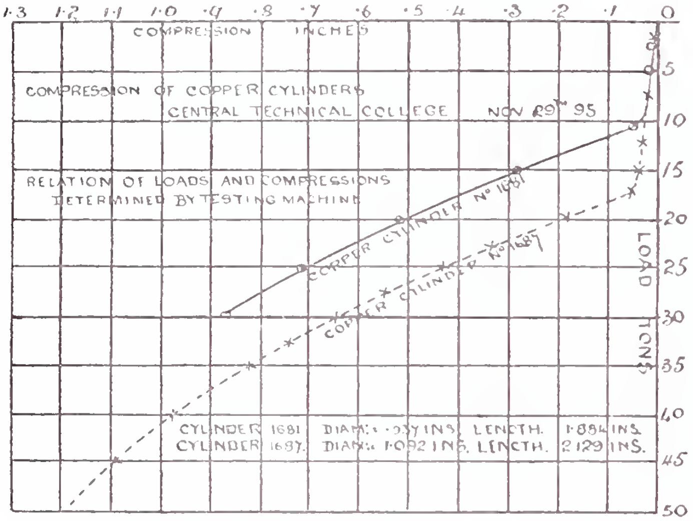

FIG. 23.

III.—Comparison of Gauge Pressures, calculated Loads, neglecting Friction, and true effective Loads of Ram at West India Docks, 31st December 1895.

Observed gauge pressure. lb. per sq. in.	Calculated load on ram, neglecting friction, &c. Tons	Effective loads from compression of copper cylinders		Mean effective load of ram in tons from plotted curve	Load calculated by formula (*a*) in tons	Friction of ram. Tons
		Cylinder 1,683. Tons	Cylinder 1,688. Tons			
10	5·04	—	—	—	0·14	4·90
15	7·57	2·50	—	2·50	2·46	5·11
20	10·09	4·70	—	4·70	4·78	5·31
30	15·13	7·60	—	7·60	9·42	5·71
40	20·18	14·00	—	14·00	14·06	6·12
50	25·22	19·24	19·10	19·17	18·70	6·52
60	30·26	24·38	23·48	23·93	23·34	6·92
70	35·31	—	28·15	28·15	27·98	7·33
80	40·35	33·80	33·09	33·44	32·62	7·73
90	45·40	—	37·40	37·40	37·26	8·14
100	50·44	—	41·73	41·73	41·90	8·54
110	55·48	—	45 82	45·82	46·54	8·94
130	65·58	—	51·80	51·80	55·82	9·76

IV.—Comparison of Gauge Pressures, calculated Loads neglecting Friction, and true effective Loads of Ram at West India Docks, 15th June 1896.

Observed gauge pressure. lb. per sq. in.	Calculated load on ram, neglecting friction, &c. Tons	Effective loads from compression of copper cylinders		Mean effective load of ram in tons from plotted curve	Load calculated by formula in tons	Friction of ram. Tons
		Cylinder 1,689. Tons	Cylinder 1,690. Tons			
20	10·09	—	—	—	—	—
30	15·13	—	—	—	—	—
40	20·18	15·20	--	15·20	16·10	4·08
50	25·22	21·60	21·05	21·33	21·08	4·14
60	30·26	26·80	26·20	26·50	26·06	4·20
70	35·31	31·70	30·90	31·30	31·04	4·27
80	40 35	37·40	35·85	36·62	36·02	4·33
90	45·40	41·00	40·35	40·67	41·00	4·40
100	50·44	—	45·25	45·25	45·98	4·46
110	55·48	—	50·30	50·30	50·96	4·52

The hydraulic press has a ram 3 ft. $1\frac{7}{8}$ in. in diameter, or 1,130 sq. in. area. Hence, if there were no cup leather friction, or other force affecting the action of the press, except the water pressure, and if the pressure gauges were quite accurately graduated, then the crushing effort due to any gauge pressure would be given by the following equation:—

Let a = ram area in sq. in. = 1130;

p = gauge pressure in lb. per sq. in.

Then total pressure of ram on brick column

$$= P = \frac{pa}{2240} = 0{\cdot}5044\,p \text{ tons} \quad . \; . \; . \; . \; . \; . \; . \; . \; . \quad (1)$$

The cup-leather friction is, however, considerable, and the weight of the ram itself balances a portion of the water pressure.

A comparison of the results given in Table III. showed that the true load corresponding to any gauge pressure would be given very approximately for the condition in which the ram was on 31st December 1895 by the following formula:

$$P = 0{\cdot}464\,p - 4{\cdot}5 \text{ tons} \quad . \; . \; . \; . \; . \; . \; . \; . \; . \; . \quad (2)$$

Similarly comparing the results in Table IV. it is found that the true load corresponding to any gauge pressure for the condition in which the ram was on 15th June 1896 is very approximately given by the formula

$$P = 0{\cdot}498\,p - 3{\cdot}82 \text{ tons} \quad . \quad (3)$$

It appears, therefore, from the observations that the friction of the ram was a little less on 15th June than on 31st December, or else that the gauges registered a little differently on those dates.

In Tables III. and IV. pressures calculated by these formulæ are given for comparison with those deduced directly from the compressions of the copper cylinders. It will be seen that the differences are nowhere important, and fall within the limits of errors of observation. It may be noted that in the case of the tests of each copper cylinder a different part of the ram

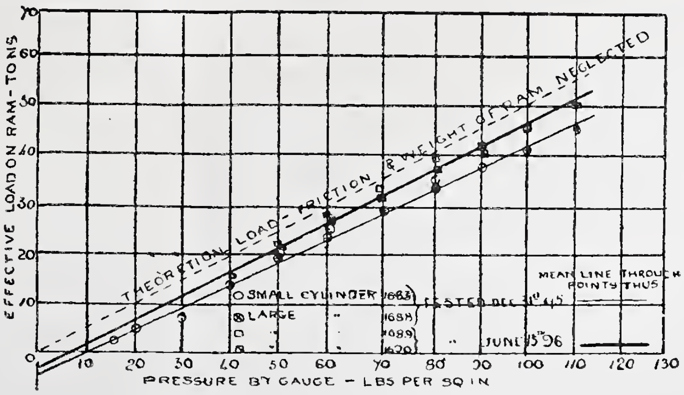

FIG. 24.—CALIBRATION OF HYDRAULIC PRESS.

was used, and if the ram was not of uniform roughness some discrepancies would be shown in the observations.

Formula (2) has been used in reducing the results of the first series of tests of brick piers, and formula (3) in reducing the results of the second series of tests.

In fig. 24 all the observations on the crushing of copper cylinders in the hydraulic press have been plotted. The gauge pressures are taken as abscissæ, and the true loads deduced from the observed compressions as ordinates. The thick and thin lines give the relations of gauge pressures and loads on the two dates as calculated from formulæ (2) and (3). The figure shows that the formulæ agree very closely with the observations, and that the assumption that the results can be represented very approximately by a linear equation is true enough for all practical purposes.

II.—REPORT ON CRUSHING TESTS OF SAMPLES OF BRICKS USED IN BUILDING THE EXPERIMENTAL PIECES OF WALL.

Samples of three different kinds of bricks were sent.* These were prepared with plaster faces as usual. The following are the results of the crushing tests:—

Date of test	Description of brick	Dimensions in inches	Area crushed in square feet	Loads in tons		Stress in tons per square foot	
				Cracking	Crushing	Cracking	Crushing
1896. Nov. 12	Fletton (Plowman) . . .	8·6 × 4·15 × 2·65	0·248	33·9	50·23	136·8	202·7
,,	Fletton	8·6 × 4·20 × 2·70	0·251	50·0	50·95	199·4	239·0
,,	Blue Staffordshire . . .	4·2 × 4·30 × 2·70	0·125	44·9†	97·8	358·0	779·6

* These bricks were of different make from those used in the first experiments, the crushing tests of which are given in Vol. III. p. 348.

† Cracks apparently superficial only.

III.—REPORT ON TESTS OF LIME AND CEMENT USED IN THE CONSTRUCTION OF THE EXPERIMENTAL PIERS AT THE WEST INDIA DOCKS.

By arrangement parcels of lime and cement as used at the West India Docks and also some of the sand used there were forwarded to the Central Technical College. The quantity of sand was not sufficient for making more than a few briquettes, and therefore it was decided to use for most of the tests the standard washed and sifted sand which has been generally used for cement tests in this country. This sand is obtained from Leighton Buzzard. A few briquettes were made with the sand received from the West India Docks, and this is referred to below as special sand.

The briquettes for compression tests were cubes of 3 inches length of side. They were made carefully, and when removed from the moulds were placed under water to harden. The results of the tests are given in the following tables. The results are also plotted in the diagram [fig. 25].

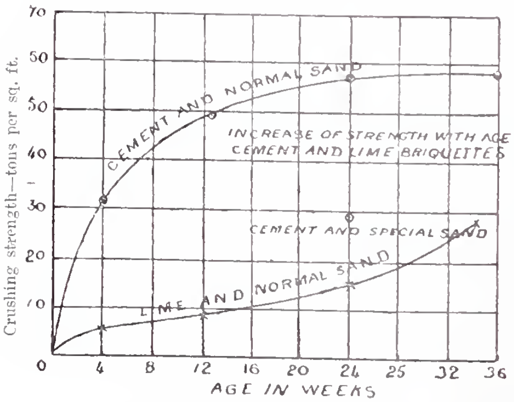

FIG. 25.—STRENGTH OF MORTARS.

Lime Briquettes.—Composed of two of sand to one of lime by volume.

No. of specimen	Description	Date of making	Date of testing	Age. Weeks	Dimensions in inches		Area in square feet	Breaking load in tons	Crushing stress. Tons per square foot
					Crushed section	Height			
		1895	1895						
L. 1	Standard sand	October 4	October 31	4	3·00 × 3·00	2·99	0·0625	0·344	5·50
L. 2	Ditto	October 4	October 31	4	3·00 × 3·00	3·02	0·0625	0·416	6·66
			1896						
L. 6	Ditto	October 7	January 7	13·1	3·00 × 3·05	3·00	0·0635	0·515	8·11
L. 7	Ditto	October 28	January 15	11·3	3·00 × 3·00	3·01	0·0625	0·585	9·36
L. 3	Ditto	October 4	March 20	24	3·00 × 3·00	2·99	0·0625	0·946	15·14
L. 4	Ditto	October 7	March 20	23·6	3·00 × 3·00	2·97	0·0625	0·961	15·38
L. 5	Ditto	October 7	March 20	23·6	3·00 × 3·00	3·01	0·0625	1·041	16·65
L. 9	Ditto	October 28	June 23	34	3·00 × 3·00	3·00	0·0625	1·697	27·15
L. 10	Ditto	October 28	June 23	34	2·99 × 3·00	3·00	0·0623	1·788	28·61
L. 11	Ditto	October 28	June 23	34	3·00 × 3·00	3·02	0·0625	1·876	30·02
L. 12	Ditto	October 28	June 23	34	3·00 × 3·00	3·00	0·0625	1·687	26·99

Mean strength at 4 weeks = 6·08 tons per sq. ft.
Ditto 12 weeks = 8·73 ditto

Mean strength at 24 weeks = 15·72 tons per sq. ft.
Ditto 34 weeks = 28·19 ditto

Cement Briquettes.—Composed of four of sand to one of cement by volume.

No. of specimen	Description	Date of making	Date of testing	Age. Weeks	Dimensions in inches		Area in square feet	Breaking load in tons	Crushing stress. Tons per square foot
					Crushed section	Height			
			1895						
1	Standard sand	October 2	October 31	4	2·99 × 3·02	3·06	0·0627	2·196	35·03
3	Ditto	October 2	October 31	4	3·00 × 3·00	3·03	0·0625	1·741	27·86
			1896						
7	Ditto	October 3	January 7	13·7	3·00 × 3·00	3·02	0·0625	2·670	42·71
11	Ditto	October 3	January 7	13·7	3·00 × 3·03	3·00	0·0631	3·428	54·32
4	Ditto	October 2	March 19	24	3·00 × 3·02	3·00	0·0629	3·085	49·04
5	Ditto	October 2	March 19	24	3·00 × 3·01	3·00	0·0627	3·790	60·44
8	Ditto	October 3	March 19	24	3·02 × 3·00	3·00	0·0629	3·710	58·97
2	Special sand	October 2	March 19	24	3·01 × 3·02	2·99	0·0631	2·152	34·11
6	Ditto	October 2	March 19	24	2·98 × 3·00	3·00	0·0621	1·484	23·90
9	Standard sand	October 3	June 9	35·7	3·02 × 3·00	2·99	0·0629	4·124	65·56
10	Ditto	October 3	June 9	35·7	3·00 × 3·00	3·02	0·0625	3·368	53·89
12	Ditto	October 3	June 9	35·7	3·03 × 3·00	3·00	0·0631	3·559	56·40

Mean strength at 4 weeks = 31·45 tons per sq. ft.
Ditto 13·7 weeks = 48·52 ditto
Ditto 24 weeks = 56·15 ditto
Ditto 36 weeks = 58·62 ditto

Mean strength of briquettes made with same sand as that used in building the piers = 29·00 tons per sq. ft. at 24 weeks.

Composition of Mortars by weight and volume from weighings when making Briquettes at the Central Technical College.

Date	Mortar	Proportion by volume	Proportion by weight
October 1895	Cement and special sand	1 to 4	1 to 5·12
,,	Cement and standard sand	1 to 4	1 to 5·25
,,	Lime and standard sand	1 to 2	1 to 6·70
November 1896	Cement and special sand	1 to 4	1 to 4·20
,,	Cement and normal sand	1 to 4	1 to 4·40

⁂ The proportions by weight vary with the degree of packing of the cement and sand particles.

IV.—ON THE INFLUENCE OF FORM ON THE RESISTANCE TO CRUSHING.

It is very common to assume roughly that the resistance to compression in cases where bending does not enter is proportional simply to the area normal to the crushing pressure.

Hence in crushing tests specimens of more or less dissimilar form are crushed, and the crushing pressures per sq. in. are compared without reference to the influence which the proportions of the specimens may have had on the resistance to crushing.

Some of the earlier French writers on strength of materials pointed out that the crushing resistance per unit of area was only constant for a given material in geometrically similar prisms. Quite recently Bauschinger made experiments on this point, and still more recently Martens has made experiments on very various materials, with results which generally confirm those of Bauschinger.

Let f be the crushing resistance in pounds per sq. foot, A the area of the prism normal to the crushing pressure. Then for prisms of different heights h, but similar in cross-section, Bauschinger found that

$$f = \left(a + \beta \frac{\sqrt{A}}{h}\right),$$

where a and β were constants for any given material. For prisms of dissimilar cross-section, let c be the length of circumference of the section. Then

$$f = \left(a + \beta \frac{\sqrt{A}}{h}\right) \sqrt{\frac{\sqrt{A}}{\frac{1}{4}c}}.$$

These equations are empirical, and though broadly they agree with the results of such tests as have been made on natural stone and other materials, their verification is difficult. Different blocks, even of the same natural stone, vary enough in quality to make the results more or less discrepant.

It occurred to the author that ordinary red rubber bricks were uniform enough in quality to be suitable for such tests, and soft enough to be easily cut to prisms convenient for testing. The following tables give a series of such tests. The bricks were sawed roughly to the sizes required, and then rubbed to exact dimensions. They were tested carefully with a spherical joint interposed between them and the plate of the testing machine. Table I. gives a series of results on prisms of square section; Table II. a series of results on rectangular prisms of similar brick.

Table I.—Prisms of Red Rubber Brick, of square section, and of different proportions of height to length of side.

Dimensions : inches	Area crushed per sq. ft.	Cracking load. Pounds.	Cracking stress. Tons per sq. ft.	Crushing load. Pounds.	Crushing stress. Tons per sq. ft.
Height					
2·00 × 1·99 × 1·01	·028	6325	100·88	7733	123·33
2·01 × 2·01 × 1·01	·028	6222	99·23	8256	131·68
2·02 × 2·02 × 1·00	·028	6561	104·64	7709	122·95
Means :—			101·58		125·99
Height					
2·01 × 1·98 × 1·97	·028	5801	92·52	5801	92·52
1·99 × 1·98 × 2·01	·027	5986	98·94	5986	98·94
2·01 × 1·96 × 2·02	·028	4403	70·22	4403	70·22
Means :—			87·23		87·23
Height					
2·01 × 2·00 × 3·97	·028	3974	63·38	4266	68·04
1·99 × 1·98 × 3·96	·027	4965	82·07	4965	82·07
Means :—			72·73		75·06

Table II.—Rectangular Prisms of similar section, but different heights, of Red Rubber Brick.

Dimensions : inches	Area crushed per sq. ft.	Crushing load in Tons	Crushing stress. Tons per sq. ft.
Height 2·84 × 4·70 × 2·33	·0927	7·740	83·50
2·83 × 4·70 × 2·32	·0927	7·810	84·25
Mean :—			83·875
2·84 × 4·70 × 4·63	·0927	6·660	71·84
2·84 × 4·71 × 9·28	·0927	6·385	68·88

It will be seen that in both series the crushing pressure per sq. foot varies very much with the height of the specimen, although all the test blocks were much too short for any lateral bending to occur. In fig. 26 the results of these two series of tests are plotted, and it will be seen that for each series the results plot very fairly as a straight line. The variation of crushing strength is really considerable when the uniformity of the material is considered.

It is necessary sometimes to test half bricks instead of whole bricks, because the whole brick requires a greater load than can be obtained in most testing machines. The uniformity of red rubber bricks suggested that they would be convenient material for determining whether there was a difference in the crushing pressure per sq. ft. depending on the difference of form of the whole and half brick. The following tests were therefore made, the bricks being rubbed to exact dimensions and crushed between millboards with a spherical joint interposed between the plate of the machine and the brick :—

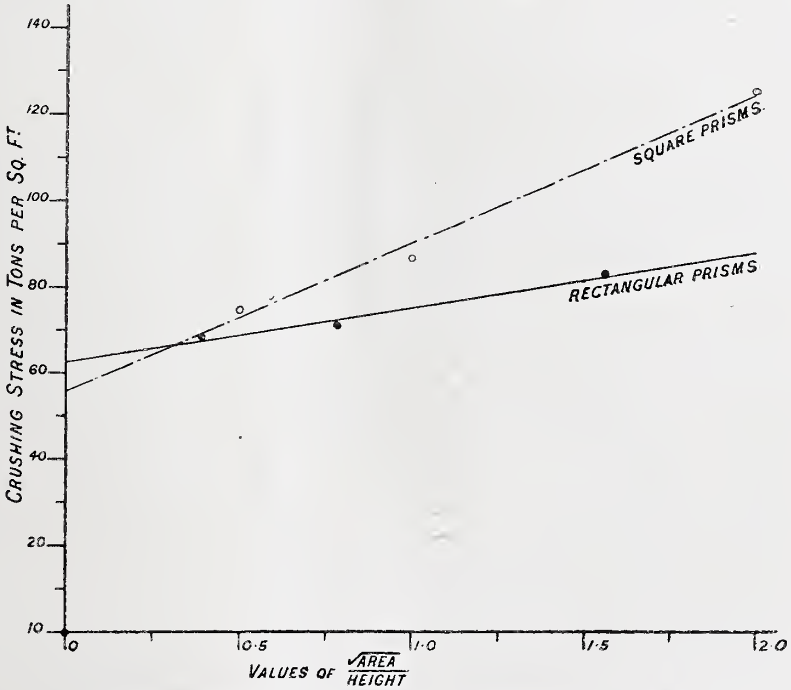

FIG. 26.—RED RUBBER BRICK PRISMS : VARIATION OF COMPRESSIVE STRENGTH WITH FORM.

Dimensions	Area crushed	Crushing		Mean stress. Tons per sq. ft.
		Load	Stress	
high	sq. ft.	tons	tons per sq. ft.	
9·0″ × 4·5″ × 2·95″	0·2813	22·420	79·70	79·70
4·5″ × 4·5″ × 2·95″	0·1406	10·560	75·12	72·90
4·5″ × 4·5″ × 2·95″	0·1406	9·935	70·67	

Hence it appears that the half brick is weaker than the whole brick in the ratio 1 to 0·9145. In other words, the half brick is weaker per sq. ft. on account of its dissimilarity of form by 8½ per cent.

⁂ The discussion on the foregoing Papers will appear in the issue of 31st December.

9, Conduit Street, London, W., 17*th December* 1896.

CHRONICLE.

The Experiments on Brickwork.

The publication of the discussion which followed the Reports and supplementary Papers on Brickwork Tests read at the General Meeting of Monday, the 14th inst., is deferred to the next number. The Report which opened the proceedings was read by Mr. William C. Street [*F.*], Hon. Secretary of the Science Standing Committee, the tabulated statement of results being described and explained in detail by Mr. Max. Clarke [*A.*] with the aid of photographic views shown by the lantern. Most of these views are reproduced on foregoing pages. The speakers included Professor Unwin [*H.A.*], F.R.S., whose Papers are given as Appendices to the Report; Mr. Henry Dawson [*F.*], Mr. Wm. Woodward [*A.*], Mr. William White [*F.*], F.S.A., Mr. P. Gordon Smith [*F.*], Chairman of the Science Committee; Mr. John Slater [*F.*], Mr. Hugh Leonard [*H.A.*], well known as having made some very valuable tests of brickwork in Bengal in 1873, fully described at the time in *Engineering*, vol. xx. p. 103, and briefly summarised in the Journal, Vol. II., 3rd Series, pp. 431, 593. Other speakers were Mr. Beresford Pite [*F.*], Mr. William Emerson, *Hon. Secretary*, Mr. F. T. Reade [*H.A.*], Mr. B. J. Capell [*A.*], and the President.

THE ROYAL GOLD MEDAL 1897.

Notice to Members.

On Monday, the 3rd February 1897, the Chairman presiding will announce to the General Meeting the name of the person the Council propose to submit to Her Majesty the Queen as a fit recipient of the Royal Gold Medal for the year 1897. Members of the Institute desiring to suggest names for the consideration of the Council should do so by letter addressed to the Acting Secretary prior to the 11th prox.

The British Archæological School at Athens.

Mr. Penrose, F.R.S., ex-President of the Institute, writes:—Some of the readers of the Journal may be not unwilling to associate themselves with the effort that is being made by the Managing Committee of the British Archæological School at Athens to build a hostel in which the students of the school may have a somewhat collegiate manner of residence.

It has been from the very first a desire of the School Committee to provide lodgings for the students; but the low condition of the funds has rendered it hitherto impossible. There is now, however, a better prospect of its realisation, if an amount of additional help, which it seems reasonable to hope for, can be obtained.

Since the commencement of the school, ten years ago, the number of the students has increased in a satisfactory manner, and this year the number enrolled is not less than twelve; and the majority of these have informed the Committee that if such a hostel had been now existing, they would have gladly availed themselves of it.

At present the students must necessarily lodge at a distance, the very nearest convenient quarters being considerably over half a mile from the school; and they are scattered about in different hotels and lodgings, so that it is a real difficulty for them to make use of the school library and to study in the public museums on the same day.

The proposal is to erect a building for the purpose of supplying each student with a private room, combined also with a general common room and suitable offices, on the ground which was presented to the school by the Greek Government, so as to be in close connection with the school library, which is now well supplied with architectural and archæological books; and with the further advantage of being adjacent also to that of the American school, with which our school is, and always has been, in close alliance.

In addition to the advantages above mentioned, the more complete social intercourse amongst the students themselves, and their more ready access at all times to the Director, is an obvious gain, especially to the junior students.

Up to the end of November last, subscriptions amounting to £800 had been paid or promised, and about £500 more would enable a working instalment of the undertaking to be commenced at once; and this would be peculiarly advantageous if it could be started under the auspices of the present Director (Mr. Cecil Smith), who has taken very great interest in the project, but who is obliged to leave the post in June next.

Proposed Government Buildings, Jamaica.

Writing from Downing Street under date 4th December, the Secretary of State for the Colonies informs the President that Mr. W. H. Harrison has been selected by the Government of Jamaica to be the architect for the proposed public buildings in Kingston, Jamaica. Mr. Harrison, as will be seen by reference to the Journal of the 12th ult., p. 41, was one of the four nominated by the Council for the work, the others being Mr. Frank T. Baggallay, Messrs. Gibson & Russell, and Mr. Beresford Pite.

The late William Alphonsus Purdue [*A.*].

Mr. W. A. Purdue, who had been an Associate of the Institute since 1882, died of bronchitis on the 14th ult., after two days' illness, in his 72nd year. The deceased, who was the third son of the late Mr. Thomas Purdue, a Commissioner of Income Tax at Somerset House, was born at Ringwood, Hampshire, and was articled to Mr. Samuel Beazley, the architect of the Lyceum, Adelphi, and St. James's Theatres, in whose office he had as colleagues Mr. (now Professor) T. Roger Smith and Mr. W. Boucher. During his apprenticeship he entered as a student at the Institute, and also at the Architectural School of the Royal Academy. At the conclusion of his articles he entered the office of Mr. John Johnson, of the Adelphi, an accomplished draughtsman and a skilful architect, where he acquired great facility with his pencil, which he was enabled to exercise during an extensive tour on the Continent, chiefly in Italy, during the years 1854 to 1859. On his return to England he took chambers in John Street, Adelphi, where he remained for several years, occupying himself in making drawings for architects and contributing sketches to illustrated papers. In conjunction with Mr. N. H. J. Westlake, F.S.A., he issued by subscription a facsimile of the very rare fourteenth-century MS. Book of Hours in the British Museum, known as Queen Mary's Psalter, his part in which was acknowledged by the late W. Burges to have been executed with rare skill and fidelity.

The late Secretary R.I.B.A.

At the Annual General Meeting of the York Architectural Society, held on the 27th ult., special reference was made to the death of Mr. William H. White, and in a sympathetic letter from the Hon. Secretary, Mr. A. B. Burleigh, the Council has been asked to convey through the JOURNAL to friends and relatives of the deceased the unanimous expression of sympathy passed by the Society on the occasion. Similar letters of condolence have been received from the Liverpool Society, from the Devon and Exeter Society, and from other non-Metropolitan Bodies allied to the Institute. In all cases tribute is paid to the varied talents and accomplishments of the deceased, and eloquent testimony borne to his labours, not only for the Institute with which he had been so long and actively connected, but also for the Allied Societies, which owe him much for his fostering care and interest.

Additions to the Library.

Modern Farm Buildings: their Construction and Arrangement, the second and revised edition of a thoroughly practical and useful handbook by Mr. A. Dudley Clarke, has been received from the publisher [London: B. T. Batsford]. It is a testimony to the completeness of Mr. Clarke's practical knowledge of his subject that his work, which is frequently asked for by students and others, has been adopted by the Council of the Surveyors' Institution as one of the text-books for the Institution examinations. Mr. Clarke goes further than his title indicates; apart from his treatment of the planning and erection of new homesteads, he devotes some attention to the remodelling of types of existing farms so as to meet with modern requirements. The object of the work is primarily utilitarian, and it is a timely contribution to the literature of a subject on which authorities had become a little out of date. It contains numerous plans, besides illustrations in the text.

A couple of brief articles, on "Linear Perspective," which Mr. G. A. T. Middleton contributed to the American quarterly, the *Architectural Record*, have been published, with seventeen diagram illustrations by Mr. Batsford, from whom a copy has been received. Mr. Middleton has divided his subject into two sections—"Elementary Principles" and "The Representation of Shadows and Reflections."

Mr. T. L. Watson's Paper, *Glasgow Cathedral: a Contribution to the History of the Structure*, read before the Architectural Section of the Philosophical Society of Glasgow, has been received from the author. Another pamphlet presented by its authors, W. J. Dibdin and R. Grimwood, through Mr. John Hebb, is *The Analysis of Mortar*, a Paper read at the Summer Meeting of the Society of Public Analysts, and published in the *Analyst* of last August.

Copies of the December number of the *Architectural Record* have been received both from the editor and Mr. Barr Ferree, containing the eighth instalment of Mr. Ferree's series of articles on "French Cathedrals." The present article is devoted to S. Trophime, Arles. Mr. Banister F. Fletcher contributes to the same number his second article on "The Smaller Houses of the English Suburbs and Provinces," and Mr. G. A. T. Middleton writes on the "Early Renaissance in France." An interesting contribution to the number is "Perspective Illusions in Mediæval Italian Churches," by Mr. Wm. H. Goodyear, who seeks to establish a conclusion, based on extensive examinations, regarding optical effects attempted by Mediæval builders.

The third quarterly part for the current year of the *Journal* of the Royal Society of Antiquaries of Ireland (vol. vi.) contains a Paper by Mr. R. A. S. MacAlister on "The Antiquities of Ardoileán, Co. Galway," with six illustrations, and a note on the "Ancient Stained Glass Windows of St. Canice's Cathedral, Kilkenny," by Michael J. C. Buckley, besides other matter, and fully illustrated accounts of the various excursions made by the

Society. Mr. E. Appleton contributes "Notes on Torre Abbey," and the incumbent of All Saints', Kenton, an account of his church, an interesting example of Perpendicular work, to the *Transactions* of the Exeter Diocesan Architectural and Archæological Society (vol. i. part 2).

NOTES, QUERIES, AND REPLIES.

Election of Fellows [pp. 20, 22].

From Harry Sirr [*A.*]—

In the issue of the 5th November it is pointed out by Mr. Thomas B. Whinney that, by reason of the few advantages Fellows (who pay an additional two guineas a year) possess over Associates, there is a great possibility that an Associate may be thoroughly satisfied with his position as such; and he fears "this evil" arises from the great mistake of giving Associates too much voting power. I venture to question whether, if this satisfaction is felt by an Associate, it is to be lightly held to be an evil. It has been said that the present condition of affairs is serious, and demands strong reforms. It is, therefore, worth while considering whether the inveterate and unsatisfactory classification of professional members should be continued. So far as general observation goes, the public are not impressed when F.R.I.B.A. is substituted for A.R.I.B.A.—nor is it desirable that the Institute should be the guarantor of a man's practice. If there were but one class of professional members, the abolition of the election to Fellowship, the whole business of which appears to be so distasteful, would be accomplished. The Register of Students and Probationers, of course, would remain. Then a roll of honour might well be formed, membership of which would be *conferred* as a distinction.

York Gate, Buckingham Street.

From John Hebb [*F.*]—

The design of this structure has been commonly ascribed to Inigo Jones; but some writers, the late Mr. Wyatt Papworth among the number, are inclined to believe that it was designed, as well as carried out, by Nicholas Stone, a mason, who, with his son, who succeeded him in business, had a yard at the rear of the houses on the south side of Long Acre. Stone's principal business was the making of monuments, of which he executed a considerable number; but it would appear that he occasionally acted as architect, and some persons consider that the design of the Water Gate in the Embankment Gardens was not beyond his capacity. The only documentary evidence in support of the contention that the Gate was designed by Stone is a MS. account-book, formerly belonging to Stone, with notes by his son-in-law, purchased by Sir John Soane at the Strawberry Hill sale, and now in the Soane Museum. The MS. states that the Gate was designed and built by Stone. It is possible that Stone made the detailed drawings of the Gate; but there are sketches of the design among the Inigo Jones drawings belonging to the Duke of Devonshire, and it seems more probable that Jones designed the Gate, that Stone carried it out, and for that purpose made the detailed drawings, which led Stokes (Stone's son-in-law) to assume that Stone made the original design. There is no resemblance between this Gate and other works attributed to Nicholas Stone, but there is considerable likeness to other designs which are known to be by Inigo Jones. The passage from Nicholas Stone's account book in which the design of the Gate is attributed by Stokes to Stone is as follows:—

> The Water Gate att Yorke House hee desined and built and ye Right hand Lion hee did fronting ye Thames. Mr. Kearns, a Jarman (i.e. a kinsman) by mar'ing his Sister, did ye Shee Lion.

Recent Decisions as to Drains and Sewers.

A recent issue of the *Law Journal* states that the House of Lords are to be appealed to for a final solution of the drain or sewer question. The existing statutes are ridiculously defective and inadequate, and their draughtsmen seem to have had a very insufficient insight into the nature of the problems with which their bills had to deal. Almost weekly some illustration of this arises. On 31st October, in *Appleyard* v. *The Vestry of Lambeth*, Mr. Justice Hawkins had before him an action in which the plaintiff claimed a declaration that a conduit constructed by his predecessors in title, with the sanction of the Surrey Commissioners of Sewers, a body corresponding to the old Metropolitan Commissioners of Sewers, was a sewer and not a drain. In *Regina* v. *The Mayor &c. of Hastings* (before Mr. Justice Grantham and Mr. Justice Wright on 7th November), the question involved was whether a conduit which was a sewer within the Public Health Act 1875 had been turned into a drain by the Amendment Act of 1890, or the Hastings Corporation Act of 1885. It is difficult to appreciate the decision, but it apparently amounts to this: that in such cases the local authority must repair under the Act of 1875, but may, in cases within section 19 of the Act of 1890, recover the expenses from the owner when they have taken action after complaint of nuisance duly made. *The St. Martin's Vestry* v. *Ward* (decided on 14th November by Lord Esher, M.R., Lord Justice Lopes, and Lord Justice Rigby) deals with another crux—the meaning and effect of sections 69, 73, of the Metropolis Management Act of 1855. The result of the case seems to be that where a house drain is insufficient, the local authority can under section 73 compel the owner to put it right; but that where a new system of sewerage is laid down under section 69, the authority cannot charge the owner even of an insufficient drain draining into an existing sewer with the cost of a new and efficient drain into the new sewer.

MINUTES. IV.

At the Fourth General Meeting (Ordinary) of the Session, held Monday, 14th December 1896, at 8 p.m., Professor Aitchison, A.R.A., *President*, in the Chair, with 17 Fellows (including 5 members of the Council), 21 Associates, 3 Hon. Associates, and several visitors, the Minutes of the Meeting held 30th November 1896 [p. 72] were taken as read and signed as correct.

The following Associates, attending for the first time since their election, were formally admitted and signed the Register—namely, James Hewitson Shaw and Ernest Robert Danford.

The Hon. Secretary announced that John Mossop, who by virtue of By-law 20 had ceased to be a member in 1891, had been reinstated an Associate by the Council in compliance with the same By-law.

The Hon. Secretary further announced that by a Resolution of the Council, pursuant to By-law 20, the following defaulters had ceased to be members of the Royal Institute—namely, Frederick John Kingsley Brackenbury Oliphant [*A.*] and Walter Albert Williams [*A.*].

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, were recommended by the Council for election, namely:—As FELLOW, Alfred Baskett Pinckney [*A.*], M.A.Cantab. Worcester; As ASSOCIATES. Harry James Gee Smith [*Qualified* 1896], Philip Appleby Robson [*Probationer* 1889, *Qualified* 1896], and Hubert William Walker [*Qualified* 1894].

A REPORT ON THE SECOND SERIES OF BRICKWORK TESTS carried out under the direction of the Science Standing Committee was read by Mr. William C. Street [*F.*], and a general description of the experiments given by Mr. Max. Clarke [*A.*] with the aid of photographic views shown by the lantern. Professor Unwin [*H.A.*], F.R.S., having briefly explained Appendices I., II., and III., attached to the Report, and given an account of his own independent researches on the subject of THE INFLUENCE OF FORM ON THE RESISTANCE TO CRUSHING [p. 101], a discussion ensued, at the conclusion of which a cordial vote of thanks was passed to Sir William Arrol, Professor Unwin, and Mr. H. F. Donaldson [*H.A.*], M.Inst.C.E., for the valuable aid they had afforded the Committee, and to the members of the Sub-Committee who had directed the experiments and reported and tabulated the results.

The proceedings then terminated, and the Meeting separated at 10.15 P.M.

LEGAL.

Professional Responsibilities.

BAZZONI *v.* NOTLEY.

In this case Mrs. Bazzoni, a widow, sued Mr. R. P. Notley, architect and surveyor, to recover damages for alleged misrepresentations with respect to the drainage of a house. Defendant denied the misrepresentations. Mr. Lawson Walton, Q.C., and Mr. E. Morten appeared for the plaintiff; while Mr. Kemp, Q.C., and Mr. Bremner represented the defendant.

The plaintiff stated that in January 1895 she saw the defendant with a view to taking a house known as Warwick Lodge, Clapham-park. She asked the defendant in what condition the drains of the house were, and he replied that he had within the last few years put in new drains, and that they were in every way satisfactory. She pointed out that there was no air-shaft to the main drain, and the defendant replied that it was not necessary, having regard to the system of drainage which had been adopted. Relying upon that statement, she took the house under an agreement. The agreement contained a covenant that in the event of the drains being condemned or going wrong during the tenancy the landlord, and not the tenant, should execute the repairs. In March two of her servants became ill with sore throats, and had to leave her service. Subsequently she, her daughters, and a sister became unwell, and it was then suspected that the illness was attributable to the drains being defective. A builder was called in, and he suggested alterations, which the defendant had done. The bad smells continued, however, and the sanitary inspector, who was sent for, ordered further alterations to be made. There was a delay in the execution of the work, and she was obliged to send two of her daughters away to school. In consequence of the state of the drains she had to pay doctors' fees, &c., to the extent of £75. Witnesses were called to prove that the illness of plaintiff, her daughters, and servants was due to the presence of sewer gas.

The defendant stated that he was an architect and surveyor of thirty-five years' experience, and had had a great deal of sanitary work. In 1891 he had the drains of the house reconstructed. The system adopted was that of Mr. Norman Shaw, and it gave every satisfaction. In the early part of 1893 he received notice from the sanitary inspector requiring him to carry up the ante-syphon pipes. When plaintiff saw him in January 1895, he told her that the drains had been reconstructed in 1891, and that to the best of his belief they were all right. The first time the plaintiff complained of the drains was in August, and not April, and at that time he was away on his holidays. He went down to the house in September, and saw the plaintiff's builder, who suggested that a ventilating pipe should be carried up to the top of the house. He convinced the builder that that pipe was not necessary. There was nothing insanitary in the premises at the time. In October he received a notice from the sanitary inspector to remove the intercept or traps; but that was not a proper thing to do, as the object of the traps was to prevent sewer gas getting into the house. Eventually he did more than the sanitary inspector had ordered, though in his judgment there was no necessity for the requirements of that official. The state of the drains was due, not to any defect in the drains, but to the fact that they had not been properly flushed and the traps kept clear. Shortly after the plaintiff had taken possession of the house there was a sharp frost and very little water.

Experts were called to prove that if the drains at the house in question had been properly flushed and the traps kept clear no sewer gas would have got into the house. The house was drained by the Norman Shaw system, which was in use at the Royal Academy, Haggerston Castle, Berwick, Scotland Yard, Queen's Gate, &c. The jury found a verdict for the plaintiff, and assessed the damages at £40. Judgment accordingly, with costs.

Subdivision of Warehouses.

CROW *v.* KEARLEY & TONGE.

At Worship Street Police Court, on the 26th November, Mr. Cluer made an order affirming a "notice of objection" served under section 150 of the London Building Act 1894 by Mr. Arthur Crow, District Surveyor, upon Messrs. Kearley & Tonge, the owners of warehouses in Durward Street, Whitechapel. The notice in question required that a certain additional warehouse, which is about to be erected, of a greater extent than 250,000 cubic feet, should be divided by party-walls in such a manner that no division thereof should extend to more than 250,000 cubic feet in accordance with the provisions of sec. 75 of the Act.

In appealing against this requisition of the District Surveyor, Mr. J. P. Grair, on behalf of the owners, contended that sec. 74 entitled them to adopt fireproof ceilings or floors in lieu of party-walls. He quoted the section as follows:—"Every building shall be separated either by an external or by a party-wall or other proper party-structure from the adjoining building," and pointed out that by definition 20 a horizontal floor was included in the term "party-structure." He said that a party-wall, by sec. 5 (16), was defined as being "a wall forming part of a building and used or constructed to be used for separation of adjoining buildings belonging to different owners or occupied or constructed or adapted to be occupied by different persons," and consequently did not apply to the present case, as the buildings in question would be owned and occupied entirely by his clients. He then called Mr. Wm. Eve, architect, who produced the plans of the building, and described the method of construction proposed to be adopted. He stated that the buildings would be entirely separated from each other by fireproof floors, the only means of communication between them being an approach on each floor from a staircase which was external to and separate from the buildings themselves. He suggested for the learned magistrate's consideration that they would thus form three separate buildings, each having a separate entrance from without. He thought it right, however, to say that there would be lifts running up through the buildings, but shut off by 9-inch walls and iron doors.

In cross-examination by Mr. F. F. Daldy, who appeared for Mr. Crow, Mr. Eve said that the floors would be of heavy construction, being calculated to carry about 7 cwt. to the foot, and that these would be carried by cast-iron supports. Asked whether in the event of a serious fire breaking out in one of the storeys the cast-iron supports would not be liable to crack, and thus cause the floors to fall in, he said they would substitute wrought iron if the District Surveyor preferred it.

Mr. Daldy urged that although the term "party-structure" in sec. 74 included a horizontal floor as well as a party-wall, sec. 75 required a "party-wall" and not a "party-structure," and his learned friend could not get out of his liability to provide a party-wall under sec. 75 by falling back on the party-structure provision of sec. 74. He quoted the case of *Holland & Hannen* v. *Wallen*, which decided that a horizontal floor was not a party-wall.

Mr. Grain, in reply, contended that section 75 was merely inserted in the Act in order to amend the corresponding section of the Act of 1855, which limited the size of a warehouse to 216,000 cubic feet, and section 74 of the new Act being entirely fresh legislation his clients were entitled to take advantage of it.

Mr. Cluer, who had taken time to consider his judgment, said he was unable to agree with Mr. Grain's contention that ceilings were to be treated as "party-walls." The building was, he decided, one building, and as such had to be divided by party-walls. If the statute had meant that you might build a large building, and each division of it—each floor, that is—might be 250,000 cubic feet, it would have said, "unless it be divided by party-structures," making it clear that each floor might then hold 250,000 cubic feet. He could not read into section 75 of the Act the word "structure" instead of "party-wall."

In affirming Mr. Crow's notice of objection, he allowed seven guineas costs.

It being suggested that a case on a point of law would be asked for, Mr. Cluer said he should be very glad for the High Court to decide whether a ceiling was a party-wall.

Arbitration in reference to Dangerous Structures.

BERNSTEIN *v.* THE LONDON COUNTY COUNCIL.

A case decided by Mr. Cluer at Worship Street on the 26th November disclosed another defect in the wording of the London Building Act 1894.

By section 107, if the owner of a structure certified to be dangerous disputes the necessity of any of the requisitions of the District Surveyor as embodied in the statutory notice required to be served in such cases by the London County Council, "he may by notice in writing to the Council within seven days from the service of the notice upon himself require that the subject shall be referred to arbitration."

The section further provides that "in case the owner require arbitration he may at the time of giving such notice appoint an independent surveyor to report on the condition of the structure in conjunction with the district surveyor within seven days of the receipt by the Council of the notice of appointment of the owner's surveyor and all questions of fact or matters in dispute which cannot be agreed between the owner's surveyor and the district surveyor shall be referred for final decision to a third surveyor who shall (before the owner's surveyor and the district surveyor enter upon the discussion of the question in dispute) have been appointed to act as arbitrator by such two surveyors or in the event of their disagreeing by a petty sessional court on the application of either of them:

"Such arbitrator shall make his award within fourteen days."

It appeared that the District Surveyor (Mr. Crow) had certified that two houses, known as Nos. 23 and 25, Brushfield Street, Spitalfields, were in a dangerous condition, and required certain portions of the structure to be taken down. The owner of No. 25 gave notice of arbitration, the notice being received by the Council on the 23rd October, and at the same time he appointed Mr. H. H. Collins as his surveyor. The two surveyors then agreed on a third surveyor, Mr. E. A. Gruning, to act as arbitrator. So far matters had proceeded within the seven days' limit, but then a hitch occurred. The District Surveyor suggested that a meeting of the two surveyors should take place at the premises on the 29th; but Mr. Collins could not confirm this, owing to another engagement for that day, and named the 3rd November. The District Surveyor pointed out that this would not be within the seven days' limit, but on Mr. Collins' assurance that the time limit did not apply to such meeting he agreed to meet on that day. Owing to his being subpœnaed in a High Court case, Mr. Collins was again unable to attend. The District Surveyor then declined to make any further appointment under the Arbitration Section, but offered to meet Mr. Collins on the 6th November to try and arrange what should be done to secure the building, but on the understanding that the claim to arbitration should be abandoned. This Mr. Collins would not agree to, and the owner having failed to comply with the Notice of the London County Council the matter was brought before the magistrate.

Mr. J. W. Godfrey, on behalf of the London County Council, pointed out that the intention of the Act, which he contended was borne out by section 107, was that the owner should have seven days in which to consult his surveyor and ask for arbitration; that then a further period of seven days was allowed for the two surveyors to draw up their report; and that in the event of disagreement a final period of fourteen days was allowed for the arbitrator to make his award—making in all twenty-eight days—which appeared a reasonable time in which to complete the arbitration.

Messrs. Wild & Wild appeared for the owner, and contended that the seven days' limit did not apply to the meeting, or, that if it did, it had been waived by the District Surveyor, and no right remained to rely on it afterwards. Further, it was contended that the Act nowhere specified a beginning for the fourteen days within which the arbitrator was to make his award.

Mr. Cluer said that the Act left it to the parties to go to an arbitrator to get a settlement within a reasonable time. He decided that the District Surveyor, having rightly agreed to meet the owner's surveyor after the seven days' limit, was wrong in refusing to meet him at a later date. He dismissed the summons, and ordered the London County Council to pay seven guineas costs.

THE LATE LORD LEIGHTON'S HOUSE.

On the 20th February 1896 a sketch of Lord Leighton, from the pen of Professor Aitchison, appeared in the Journal,* under the head of "Some Reminiscences." The article concluded with a suggestion that his house in Holland Park Road, with all its artistic contents, should be purchased as a memorial to so distinguished a man—just as the Italians have preserved the houses of Petrarch, Boccaccio, and Michelangelo; the people of Antwerp the house and printing-offices of Plantin; and the Nurembergers the dwelling-place of Albert Dürer. Among the wealthy people of this country, however, no one was found of sufficient public spirit to come forward and purchase the house and its contents for the nation at an outlay of a few thousands, a sum that would scarcely be missed in his year's expenditure. As Lord Leighton had verbally requested his sisters, who were his executrices, to make certain bequests, every picture, statue, bas-relief, drawing, sketch, and article of *virtu* went to the hammer to enable his wishes to be complied with. Fortunately, the results of the sale enabled them to carry out his bequests, and the house, which had been bought in, remained on their hands. With the same munificence that distinguished their brother, they have offered the house to the public, that it might remain as a memorial to him. This, however, cannot be done unless sufficient public interest is aroused to provide the few necessary thousands to pay the ground-rent, outgoings, and the cost of a curator and attendants.

Lord Leighton ranks among the most brilliant Englishmen born in the second quarter of this century. As a painter and sculptor he possessed an exquisite knowledge of the human form, which naturally led him to choose Greek subjects; he was a master of the composition of line – a very rare attainment in England—and was often splendid in colour. He was one of the greatest promoters in this country of the visual fine arts in all their varied forms. He was, again, not only an orator and a linguist, but was endowed with a loftiness of soul and dignity of demeanour that raised him far above his fellows. There is little doubt that if the proposal were carried into effect, and his house secured as a museum, many of his pictures, sketches, and correspondence would be forthcoming; the house and its contents would thus fulfil a double purpose, and serve, not only as a memorial to a great artist, but as a means of instruction and delight to the people.

The permanent colouring of the interior has great merits in the eyes of those best qualified to judge—the painters and others of cultured taste who have observed much and travelled far. In a discussion on "The Architect's Use of Colour" † at one of the Institute meetings of last Session, Mr. John Brett, A.R.A., said that "they had got a specimen of the treatment of the inside of buildings with specific colour at Kensington in the house of the late Lord Leighton.

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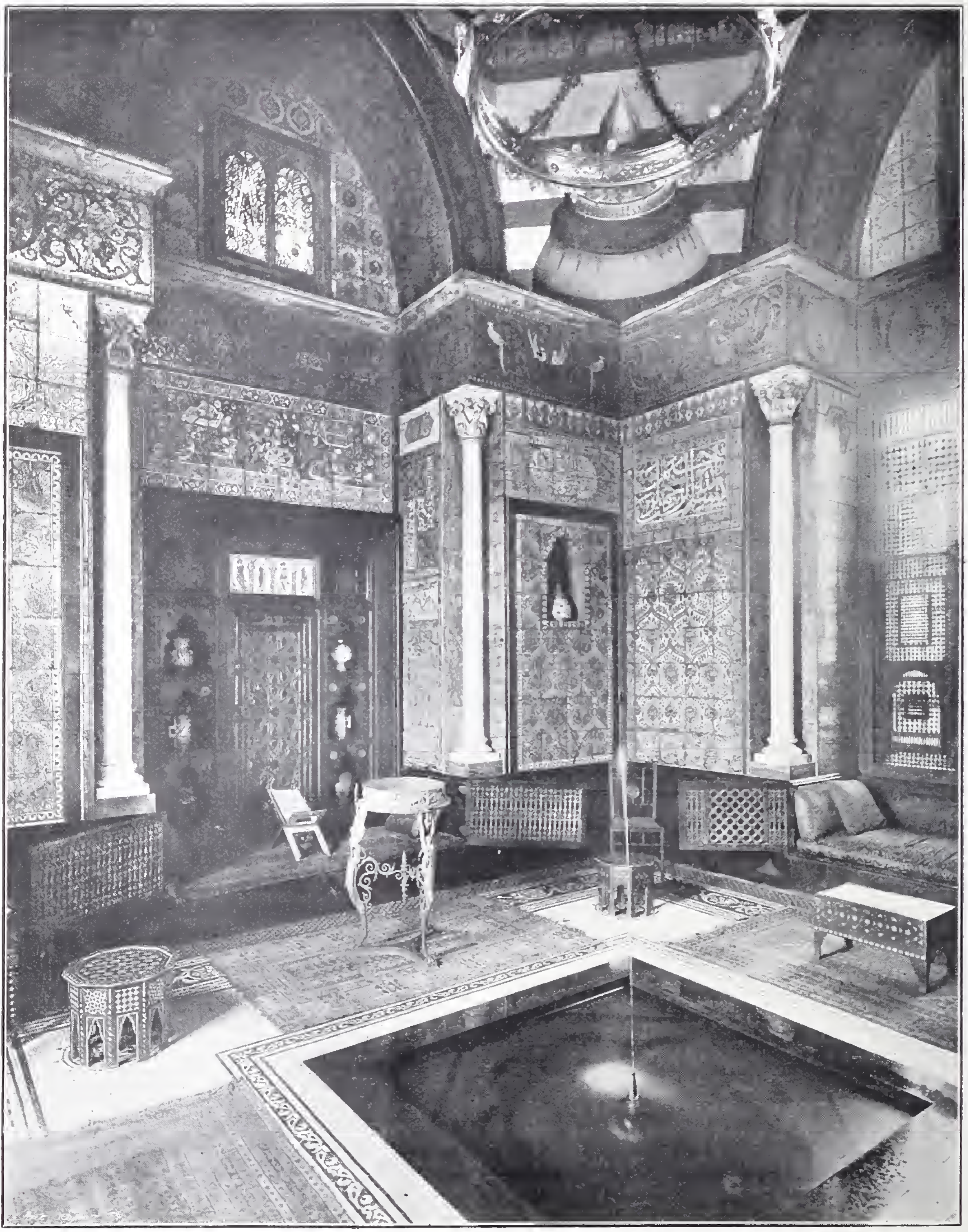
* Vol. III. Third Series, p. 265.

† *Ibid.* p. 365, at p. 379.



THE ARAB HALL IN THE LATE LORD LEIGHTON'S HOUSE, HOLLAND PARK ROAD.

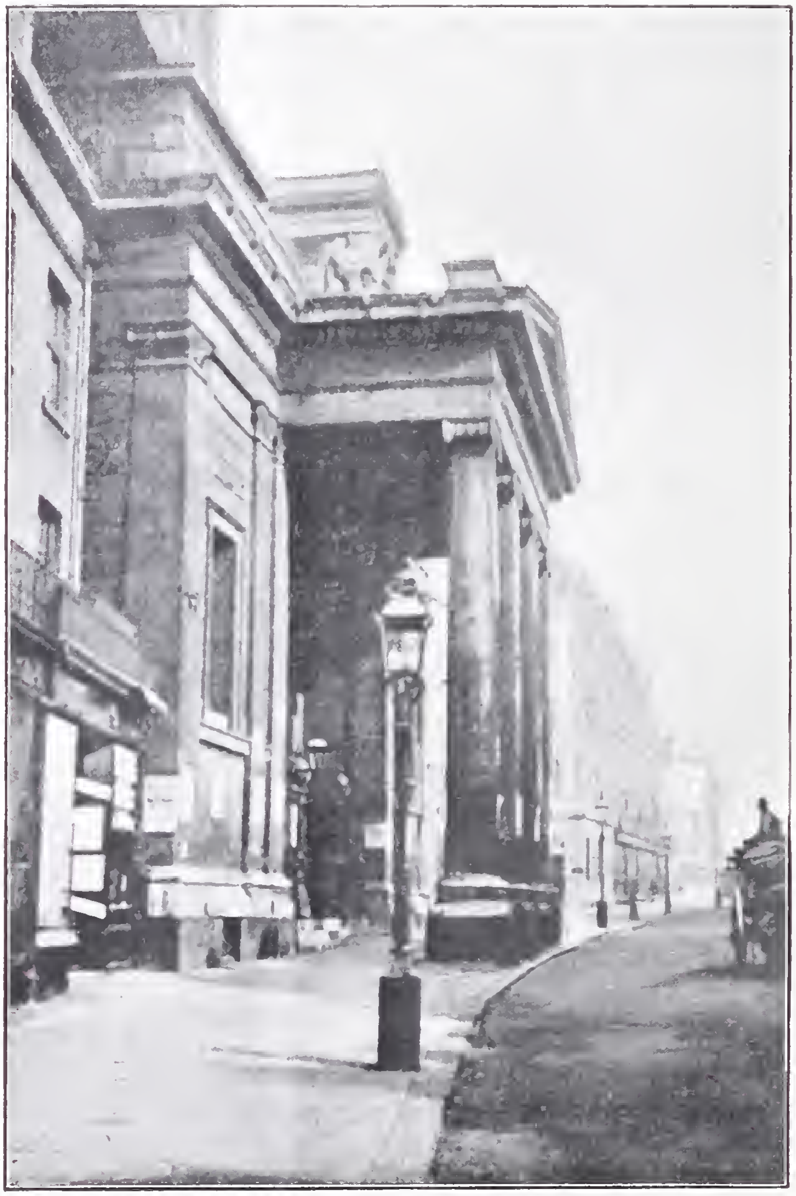
There they saw an effect of which there was no question—everybody was completely agreed about it—that the result was exquisite; and it depended upon fine marbles, very beautiful Oriental tiles, and an admirable mosaic frieze. Those three specimens of specific colour were shown in the interior, and they were probably as enduring as the world. If they wanted to construct a public building, they could not do better than begin by studying that great example of modern art in colour." On another occasion Mr. Purdon Clarke, who has travelled over a great part of the civilised world for the purpose of inspecting and purchasing rare and beautiful objects for our National Collection, declared this to be "the most beautiful thing that had been done in Europe since the sixteenth century." Most architects, indeed, with an eye for colour must admit the merits of the vista from the Staircase Hall and the beauties of the Arab Hall; while no person of taste who is not colour-blind could fail to be struck by the richly coloured vistas from the Arab Hall to the Staircase, and from the Staircase to the Arab Hall, not to speak of the effect on the eye of its passage through darkness into light. It must be remembered, too, that though the Saracen tiles are both rare and beautiful, it is their harmonious juxtaposition to gold and variously coloured marbles that causes the transcendent effect.

Monsieur Choisy, in a letter to *The Times* of 27th April last, says:—"England has at all times given the example of honouring great men. She will, I am sure, find the means of preserving for Art a monument of which she has such reason to be proud." If there is no one, "of all who followed, flattered, sought, or sued" the late distinguished President, who will provide the funds necessary to maintain his house as a museum for the people, and as an enduring memorial to his fame, then let us appeal to those institutions which have the spending of such large sums for the purpose of improving the taste of our ornamentalists. Can none of these establishments, associations, or individuals help to preserve and maintain this magnificent piece of monumental colouring at home, the equal of which we must travel into Asia to see, and which has been so munificently offered to the nation?

HANOVER CHAPEL.

THE loss of a public building, unless it be distinctly unworthy or obscure, is never to be lightly regarded. When the lost creation happens to be large, important, prominent in more senses than one, familiar, conspicuous from its position, worthy from its designer's worth, and reputable in its purposes—when, indeed, it adds to all these qualities some degree of beauty, the sense of its loss is only very slightly mitigated by the vague possibility of its being superseded by something better, or by the insistence on the prosaic though cogent causes which dictated the downfall.

One is aware of the special danger to which the sentimental Londoner is of all men most prone, the danger of investing with sanctity almost anything that has become familiar to his daily glance. We must nearly all own to some fibres in our constitution which engender, half unconsciously, an unreasoning conservatism towards the things that are. Such indiscriminate affection is reprehensible. Reprehensible, too, though more specious, because having the semblance of a right spirit, is the stretching to undue lengths of the theory that association should be a safeguard to any building. Some associations, to be sure, are strong enough and excellent enough to save the most ugly and worthless building on the most valuable of sites. But there is prevalent an extravagant overgrowth of this view of the sanctity of association which is pernicious even to the right sentiment which it apes. One may point specially to the craze which claims immunity for the buildings which have been touched even incidentally by fiction. The notion that because, for example, Charles Dickens, in a work of imagination, has hung some shred of his narrative or even woven an entire plot round a particular street or house, that house or street should be propped up in tottering uselessness, or even ugliness, to the end of time, is not only an outrage on common sense (which, perhaps, is no great matter), but it is an insult to the immortality of the writer. Let us by all means, if we like to do so, increase our interest in the works of the great writers of fiction by associating them with the places they have chosen as their scenes; but let us never imagine that the destruction of such visible memorials, if desirable on reasonable grounds, can be in any sense an artistic impropriety. In the present instance



HANOVER CHAPEL, REGENT STREET, RECENTLY DEMOLISHED.

there is no question of violated associations. It is on other and, I believe, more reasonable grounds that some of us shudder at the new-made hiatus in Regent Street. To be sure, there is many a building still standing in London whose fall would mean a greater calamity than the hacking down of Hanover Chapel. The members of this Institute made through their Council a protest against its threatened doom, but now that it is gone the equanimity with which the loss is borne by some of the protestants is attributable, I suspect, to a kind of half-heartedness in their previous admiration. Even those who own to a real pang as they pass the forsaken gap would perhaps analyse their regret rather into sentimental emotion than into a loss estimable under definite terms of artistic value. If we so do, we are possibly too fearful of our own enthusiasm, too depreciative of the virtues of the building and the skill of its architect. Let it be the object of this article to offer some homage to the artist and some tribute of appreciation to the qualities of his now lost work.

Cockerell was an architect of such calibre that even a failure from his brain would at least be worthy of consideration. It was said of him that he was the only man who could *design* a classic moulding. By which saying was meant that so completely had study made him master, not merely of the dry bones but of the spirit of classic and especially of Hellenic art, that he could safely allow imagination as well as precedent to be a factor in his compositions. With most architects who have practised the stricter forms of classical architecture, to quit the channel of authoritative prototypes has been to fail of the spirit of the style. Herein lies the imperative absolutism of the Greek and Roman formulæ. A man must have in him something of the Bramante or the Michelangelo to be successful in divagation. For common men safety lies in the normal. Cockerell, though conscious of his ability, was sparing in his licence. He acknowledged liberty, but took no liberties. The columns of his inner order, a variant of the Corinthian, which he based on that of the Golden Gate of Justinian at Constantinople, were lengthened to eleven diameters, and the entablature correspondingly lightened, on the ground that "those proportions which are deemed just externally should be lightened when employed internally and brought close to the eye of the spectator, where there is so much less effect of light and shade to diminish them."

Here was the exercise of liberty; but there was no undue levity of imagination about the man, no straining after invention for invention's sake. The building was to be scholarly if original, and rule and precedent have at least their fair share in the composition.

The proportion of the central door, whence was it derived but from Vitruvius's precept of the relation of such an opening to the whole frontispiece? That diminution of the dentils under the belfry, who dictated it but Palladio? Vitruvius again, and with him the Books of Kings, are responsible for Cockerell's special attention to the "magnitude and order of the stones composing the masonry." You must go to the Temple of Minerva at Priene for the details of the external order (both columns and antæ), and to the tetrastyle portico of the Erechtheum for the general proportions of the front. You smile, in fact, at the affectation of so much pedantic reference; but do not call it affectation or pedantry. It is manner, the fashion of the age—nay, more, it is the keynote of the method of the hour. To disregard it, or to laugh at it, is to misinterpret the work by approaching it in a spirit of criticism wholly alien to the spirit of its production. Such criticism, however valiant, is valueless. There is a law governing the conditions of appreciation which is constantly overlooked, but consistently potent. A work of art, or a work claiming to be of art, may possibly be unworthy of your attention altogether; if so, ignore it, but do not scoff. It is an absolute truth that the value of a work of art can only be estimated by sincerely attempting to view it in the spirit of its inception and creation. Sympathy, in fact, is the key to criticism. Unsympathetic estimation is estimation no longer; it misses its own intention; it is like meeting a rapier with a bludgeon—the unequal combat may raise a laugh, but is only clown's play at best. To appraise the value of work like Cockerell's you must transplant yourself spiritually into that placid age of seventy years ago, when for some mysterious reason the obsolete word "Grecian" was the substitute for "Greek." This building had, however, less subtle beauty also, a more obvious quality of attraction that could appeal to the careless, unstudious eye. You might know nothing of the Vitruvian and Palladian niceties; you might be unconscious of the characteristics distinguishing the temples of Priene and Athens, or ignorant of Cockerell's adherence to their precedent, and yet look affectionately for the first appearing of that well-known pediment as you rounded Regent Street, and greet it daily with a brightening of the heart. Many uncritical laymen will miss it nearly as much as that blind reader of the Scriptures who has been driven from the vanished portico to set his back against the unconsecrated wall of a neighbouring bank. The dome, I admit, was a failure; its glass-panelled sides, useful no doubt, and justified in their deviser's eyes by the precedent of Wren's extinguisher in Warwick Lane, had a gaunt, unsolid, haggard look, which made one prefer those points of view from which they were mercifully concealed.

In the matter of plan Cockerell deserved special praise. He was confronted by as nasty a problem of site as an architect could well find set before him. Here was a plot of ground narrowed at the back by houses on one side and by a right of way on the other, with no means of approach except on the east side, the side which, by express condition, as well as by ecclesiastical usage, had to contain the altar. That he solved his problem with real skill no one will doubt who ever entered the church, or who, if he never did so, will look at the plan in Britton and Pugin's *Public Buildings of London.* Good lighting, convenient seating, and the attainment of symmetry—three primary objects in view—were all defied by the exigencies of the position, all fought for and all achieved. Achieved, if you will, rather after the Hanoverian manner than according to the rules of the Directorium Anglicanum, but none the less achieved. Let me add, while recording the facts of the design, that the site was given by the Crown at the solicitation of the Commissioners of "the new street," that the building was of Bath stone (more credit to it for lasting seventy-one years), that it could accommodate 1,500 persons, and that it cost £16,180, a price which represents, as I calculate, a rate of 11½*d.* a cubic foot.

It has gone. The time, too, has gone in which men waxed fervent over "every endeavour to naturalise to our climate and our uses the purer taste displayed in the Greek buildings," and in the same breath could warmly decry the pursuit of "the extravagant and corrupt style of Louis XIV., or the early architecture of our less cultivated ancestors"; but we can still, and with real regret, mourn the removal of that graceful breach of the law of frontage which will now no doubt be replaced by the less interesting decorum of uniformity.

PAUL WATERHOUSE.

NOTES ON COTTAGE ARCHITECTURE.

By Ralph Nevill [*F.*], F.S.A.

WHEN an architect is asked to design cottages, it is generally in order that the result may be something better than the "irreducible minimum." At first it would seem easy to solve all the problems connected with so simple a building as a cottage; but there is a difficulty on account of the very small available margin of cost, which makes every trifle of importance. A differential outlay of 10*l.*, which is a trifle on a house, is a very large matter on a cottage the rent of which does not depend on the amount spent on it, but on other considerations. Country cottages are likely to become much more important in the future, as already the largely increasing use of bicycles by workmen, and the probable development of light locomotion, may not only check but possibly reverse the immigration into towns. The subject seems to divide itself naturally into four heads:—1. The Accommodation. 2. The Style. 3. The Plan. 4. The Material.

ACCOMMODATION.

At the outset of No. 1 there confronts us a question of "high politics" that may seem beyond the consideration of architecture, but lies so at the root of the whole question that one must be pardoned for travelling beyond the proper province of these notes. The question is whether cottagers are to have a kitchen as well as a scullery big enough by squeezing to be turned into a working kitchen. The kitchen will then infallibly be turned into a parlour, which will be kept shut up, except on Sunday afternoons, or to receive visits of "the quality." It is the opinion of many that efforts should be made to induce cottagers to use their best rooms for ordinary use, and it is always a great temptation to try and make people happy and virtuous against their will. Experience convinces one of the necessity of bowing to one of the deepest-seated instincts of cottage-dwellers; after all, it is just possible they know their own business best. Certain it is that they will leave a large roomy cottage of the old sort for a modern one where they can have this luxury (however dearly bought) of a best room. As it is, the "best room" is a sort of holy household shrine of most potent influence; and even if seldom used, it is ever present to the cottager's mind as an outward and visible sign of respectability. Again, the three bedrooms that are now imperatively demanded almost necessarily require under them a larger floor-space than suffices for the one ground-floor room. In these days of low interest and high wages, it will be more easy to get the money for good cottage building than it used to be. With regard to bedrooms the accepted rule of three is no doubt right. In spite of the probability of overcrowding, it is desirable that there should be accommodation for lodgers in a village, and that the cottager should have the chance of making a little money. The copper and E.C. are, of course, necessaries; and in the North of England a baking oven is regarded as such, but it must be left to the client to decide if he will supply this. A verandah or covered place at the back, where washing and other things can be done in the open, and yet under cover, is an enormous boon to a cottager, and might more often be given at a trifling expense. Of soft-water butts it is impossible to have too many; no rain-water should ever be wasted if it can be helped. Demand for a larder is frequently made, but this is an altogether needless luxury, as a very small cupboard with perforated wire is quite sufficient for all that will be kept there, and some unobjectionable place can generally be found for this. On the other hand, places for tools, and any number of cupboards, are most useful.

STYLE.

With regard to Style, one may quote from the present writer's book on *Old Cottages in Surrey*:—

> The great lesson to be learned from the study of these old examples is, I take it, the extreme value of simplicity. It is a lesson peculiarly needed, since even when an architect is anxious to work on such lines it is seldom that his client is content to let him. There is far more beauty in a cottage of some of the simpler forms shown, with its roof bright with lichen and its front covered with creepers, than we shall ever get from modern examples, tortured as they are into fantastic shapes, where all repose and simplicity are lost.

There is no greater mistake than this undue striving after effect. It increases the cost quite unnecessarily, and causes a stinting and grudging of internal features that are most desirable. For ordinary use nothing more can be wanted than a perfectly plain building. It is in the proportions that the effect should lie. A building plainly roofed in the manner of many an old cottage is all that is necessary, without ornamental gables and cross roofs, which vastly increase the expense. The great point is to keep the eaves low; so small a building will never look well with high walls, and an immense part of the charm of old cottages lies in the unpretentiousness of their walls. Quite sufficient fillip can be given to the front at a very small expense by bestowing a little attention on the windows, the detail of which need not be starved quite so much as is usual.

In country districts, where the same builder generally does the work for an estate or for the architect, the joiner's work, being made of what become stock patterns, can be very cheaply produced. It is a good plan to arrange with a builder who has good machinery (which is a most important factor in cost) to run mouldings from the architect's irons, and make all such joiner's work as fancy cupboards, mantelpieces, &c., to architect's patterns, and, wherever it can be arranged, to supply doors and windows, both of these being made to the regulation patterns that are most suitable. The cost would be slightly more than that of a London machine-house; but by the time allowance was made for cost and worry of carriage and faulty work, there would probably be a saving. The village builder might then carry out the rest of the work, which he could generally do to greater advantage than the larger man who could not afford superintendence for such small work, and might not care to be worried where such little profit was to be had. Machinery requires so much feeding that the owner is generally glad to get work for it, and, where he is on good terms with an architect, is often glad at slack times to make a short stock of doors or mantels that he knows are sure to be wanted. Some such arrangement is practically the only way to get an architect's own designs carried out at as cheap a rate as the common patterns. If an architect wants anything better than the ordinary work he must be prepared to take the trouble and thought off the builder's hands. Workmen, as a rule, are intelligent, and after a little help at starting, they readily adopt a new system, and the tradition once created goes along by itself. Unfortunately, one has still to tackle the youthful builder's clerk, fresh from the crude building instructions of some School of Art or Polytechnic. If any art is to be put into the humbler forms of buildings, it must at present be by the personal exertion of the architect. He must not be content to sit at home and make drawings, and expect the builder to do the rest, but he must take all the trouble of new materials and methods on his own shoulders and off the builder's. A great deal of help can be got from workmen, but the architect should, above all things, attempt to associate himself with a suitable builder who will work with him to their own and their clients' advantage. This can, of course, only be done by provincial architects, but it is not desirable that such work should be in other hands. If the architect is to have full control, it is absolutely necessary that he should have a complete knowledge of quantity-taking, otherwise it is impossible for him to know which features cost money and which are inexpensive. Solid brickwork is retained that costs pounds at the expense of a little piece of joinery that would cost as many shillings, and the introduction of anything new is impossible. Experience teaches us that a good tradition may very soon be created which will be a moral satisfaction to the architect, even if he find—as he probably will—that work in his style is carried on without his assistance. The problem of cost is to be solved by getting rid of the solid wall by some such means as that described later. Where strict economy is necessary, plain roofs of Roman, lock-jaw, or other pantiles may be used with advantage, but only where there is little or no cutting. Some of the old-fashioned small grey or thick slate may be used, and look very well. Plane tiles are best, as they give a greater thickness, and can be cut to valleys, &c. Stone may be used for the outside of walls if it be rough-cut, or can be used without being dressed—fine dressed stone spells ruin. Artificial stone may with great advantage be used for steps, and such things as bases for timber-posts.

The windows should be always casement, as the most homely, the least expensive, and the less costly to repair, and old examples teach one that the glass width should not exceed 1 ft. 3 in., and that the required size should be got by lateral expansion of separate lights. It will probably be safe to say that the superficies of bedroom windows should not be more than absolutely required by the by-laws. The greatest lesson to be learnt from a close study of stone cottages and ordinary houses in the West is the absolute sufficiency of a perfectly plain rough-cast wall relieved by the distinction given by a moulded and mullioned stone window. Wherever an old mullioned wood window is to be found in other cottages, one is at once struck with the same air of distinction. Nothing could beat a cob wall, as used in Devonshire, if one could insert a damp course and protect on the weather side. With the use of a mixing machine, it might be possible to revive the use, but only by an architect who could guarantee a large employment of the material.

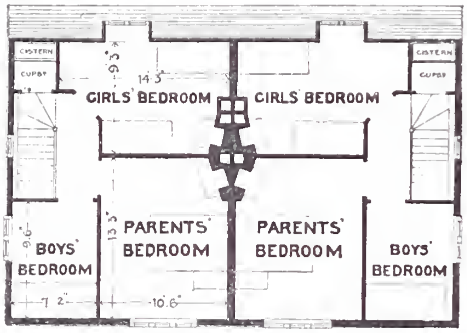
PLAN.

As regards Plan, it may be taken for granted that normal cottages will be built in pairs, whether the block is of two or four cottages. This is a question of economy of chimney-stacks. In a double cottage, which is the usual type, it becomes impossible to supply chimneys to the third rooms. This is of no consequence as far as heating is concerned, as they would never be used while cheap paraffin heaters are to be had; but it is of importance with regard to ventilation, as, even if the flues be stuffed up, as will almost certainly be the case, some air seems to find its way through. It is difficult to keep a room sweet that has no chimney. Ventilators are no use, as they are so easily stopped, and perhaps the best plan is to use the very un-architectural device of a stove pipe turned up against the wall—and this, after all, need not be unpicturesque. The living-room or parlour must face the road, whatever the aspect may be. To a cottager this question of aspect, all-important to others, is not of much consequence. It is desirable to combine the possibility of cooking with the comfort of an open fire. Most kitcheners are hopeless in this way, but there are two very neat kinds called the Star and Eclipse that have the oven under the fire and a movable top. They are excellent in working, and very nice to look at, the open fire being as ornamental as that of an ordinary grate. It is wise to pay for an extra strong top. If cupboards can be arranged in this front room they will be much appreciated. A modification of the old-fashioned corner cupboard is very inexpensive and suitable. A pane of glass in the middle and a shaped shelf will be well worth their cost. Human nature is much the same in all degrees, and every one has seen in old cottages as much space taken up with the display of old crockery and knicknacks as in the most æsthetic drawing-room. Very often a cupboard in one corner will restore the symmetry lost by cutting another corner off for a passage. Such an arrangement is seen in the plan shown later, and designed for a superior class of mechanics. Of course, there are so many more feet of angle to be paid for and other expenses. The provision of a chimney-corner is a luxury not difficult to manage, but distinctly a luxury. It is best managed when an American stove is used, when a combination of seat can be arranged in joiner's work. A cottager is like other folk, and will prefer an irregular room with nooks to four bare walls. Certainly, fixed cupboards are much appreciated and a great advantage. The drawback is that the landlord has to keep them in repair.

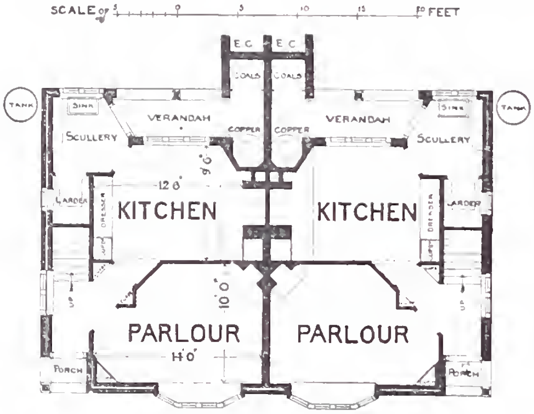
One of the most important questions is the height of rooms, and here one is confronted with difficulties caused by the whims of unpractical scientists. In the first place, one has generally to make no provision in cottages for the vitiated and heated fumes of gas, and oil is not used in sufficient quantities nor for sufficient duration of time to give trouble. It may be stated boldly that one cannot have a cottage living-room too low, and it must be remembered that under hardly any circumstances will any body of people be shut up tight in a cottage living-room, the door being pretty sure to be constantly open. On the other hand, to have to warm a large room in winter is a serious matter. In workshops or bedrooms the provision of a certain cubic space per individual is important, but entirely superfluous in an ordinary living-room. A recent discussion upon the advantage of a downward extraction of foul air in hospitals will have confirmed most practical men in their support of the open fireplace, as not only the most agreeable and sanitary form of heater, but the most scientific ventilator, since it is always acting as a downward extractor. Clients will often ask for rooms nine feet high. Not only is the expense unnecessary, but it is quite impossible to make the external or internal appearance of a cottage even respectable when such a height has to be dealt with. Nearly all by-laws require a minimum of 8 feet, and this is a very reasonable standard, but one that should certainly not be exceeded.

Even if the second room be not large enough to be used as the working kitchen, it must have a cooking stove, which should be such as to work with the smallest possible amount of fuel; large bakings may very well be done in the front room, and joints have not often to be provided for. Oil cooking stoves are now commonly used, and can generally be placed on the ordinary range; but it is as well to have a small recess communicating with the flue for an oil stove. An important part of this room is the sink; and it is most desirable, whatever the size of the room, that the sink should be in a cupboard, where it can be shut off by a door when not in use, or be otherwise covered. On no account whatever should the sink be fitted with a trap, in spite of all the sanitarians in the world. Nothing can keep a trapped sink sweet, and nothing can be more unnecessary than a trap. The outlet should connect to a 3-inch or 4-inch bendpipe of best stoneware, which should pass through the wall and connect with an open channel pipe—which is best of the kind that has the top quarter open. Some years ago Doultons made some bends of extra length, so as to pass through any ordinary wall up to 14 inches; but it is simpler and better to use the ordinary bend and form the joint in the wall, leaving a slit in front for complete access to the open pipe. The short bent pipe can then be cleaned from outside with the greatest ease. This open pipe should empty over a Duckett's three-gallon tipping basin, which should be kept above the ground, or so arranged that pails of water can be emptied directly over it. These basins are among the most valuable of all sanitary fittings: they do not seem to be sufficiently known in the South, though they are cheap, most effective, and do not get out of order. A trap is attached to them on the drain side, and the automatic discharge of the three gallons effectually keeps the trap clear. When the trap is fixed to the basin, it can be easily cleared from the basin, and no access holes are required. The trap is not likely to get unsealed. A convenient cupboard to serve as a larder can generally be provided under the stairs, and may with advantage have one or two air-brick ventilators; if the inside of these be splayed, they will give ample light. In cases where there can be no direct opening to the air, a drainpipe should be brought through the concrete and be turned up inside; there will then be ample inlet of fresh air, and the exit will take care of itself. Reference has been made to the immense advantage of a covered place at the back. Half the household work may then, for most of the year, be done outside, baskets and tools be put down, dirty boots taken off, and wet clothes hung up; the washing can also be done here instead of in the open air.

It is not necessary to give a number of plans, as the general conditions are well known to all architects; but a plan is shown which is the result of experience and efforts at improvement, and illustrates what has been stated as to various arrangements. This plan is substantially that first designed for a village to be built by the South-Western Railway for their mechanics when moved to Eastleigh. The cottages were designed in large continuous quadrangles round village greens, for the use of superior mechanics; but it is questionable whether it is good financial policy to give an agricultural labourer much less. Unfortunately, serious drainage difficulties had to be encountered, as well as some private interests. The plan has therefore never been carried out, although accepted at the time. Experience in many parts of England shows that, in spite of all we hear of rural depopulation, there is not a decent cottage standing empty anywhere; but, on the contrary, a great demand for them everywhere. In the accompanying plan an arrangement is shown by which the indispensable copper is placed at one end of the verandah, and so arranged that the flue is taken into the main stack of chimneys. There are some advantages in this, but a short, independent chimney would no doubt be cheaper. Also, if the washhouses can be put in a separate building, it is no doubt an advantage. If placed at the end of the verandah, as shown, no space is required for more than copper itself and standing space, as tubs, &c., are placed in the verandah. In some cottages of similar plan a baking oven was substituted for the copper, and the copper put in a washhouse. A coal-house may be arranged at the other end of the verandah, and a place for tools in the roof.

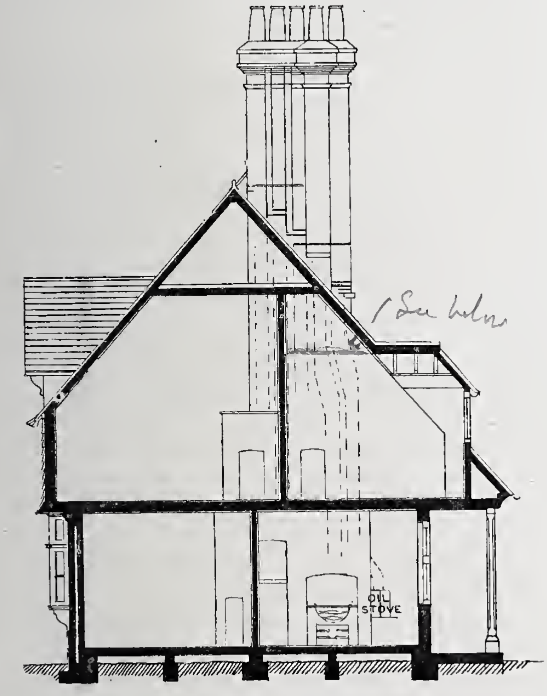


FIRST FLOOR PLAN



GROUND PLAN

If cubic space be not necessary in the living-rooms, it is most important in the bedrooms. It is perfectly idle to provide ventilators, as they are always immediately and efficiently stopped up, and most people will heartily sympathise with this. Unless each separate ventilator is under the constant superintendence of a highly skilled attendant, they are nothing but an unmitigated nuisance. Cottagers and many others do not seem to care how close and foul their rooms are, and regard it as a wilful insult to Providence to sleep with an open window. It is therefore most desirable to supply them with as much air as possible. This can only be done economically by opening their rooms high into the roof, after the old fashion; but this absolutely requires a more solid and temperature-proof roof than is usually provided. In the builder's cottage there is often a square ceiling to the bedroom, but there is nothing but thin slates and a coat of plaster between air and room, and every one knows how cruelly inefficient that is. By cutting off four or more feet of brickwork and putting a properly protected roof, a much better weather protection can be obtained at no greater cost. The reason the ordinary builder uses so much brick wall is, not that it is cheap—on the contrary, it is the most expensive part of a building—but it is because it gives him no thought and trouble. Some years ago the writer brought to the notice of the Institute a plan he had adopted of laying tiles and slates on a bed of concrete plaster laid over the backs of the rafters: this was done at a proved extra cost of 15*s.* a square over the cost of plane tiles on heart of oak lath. Rooms roofed with tiles in this way are as warm as if enclosed with a brick wall; and even when slates or some of the varieties of pantiles are used, the rooms are quite sufficiently temperature-proof to be used in the best houses. On the other hand, boarding and felting are in no way satisfactory or effectual, and are at least as expensive. The section shows how a roof may be used to give nearly all the accommodation for the bedrooms with easy and strong construction. If 7-inch joists are run right through from back to front (breaking joint on the centre partition if required), they form the ceiling of the verandah and firmly tie the whole roof together. The collars must be put at the right height for strength of tie, and be properly halved, shouldered, and nailed. Purlins, which are dangerous things, can then be dispensed with, and no principals are required. If possible, the dormers should be so arranged that the same ridge runs through and serves for both; but in all cases ridges of dormers or gables should run through and be spiked to the rafters on the other side, so as to form a truss. Stringent by-laws have recently come generally into use, and probably some of them might conflict with these high ceilings. There is a ridiculous idea among some sanitarians that the action of air can be controlled, and that the bad will always go to the top, and, unless an exit be provided, stay there. In a gas-heated room there is some truth in this, and it might be possible to so arrange tests as to favour this idea; but certainly in practice fresh air has a way of going everywhere, and mixes with the foul just as wine with water. Inlets and outlets interchange their action; but the foolish regulation that insists on the provision of openings within a certain number of feet of the ceiling would only have the effect of bringing the ceiling down, and of depriving rooms of what at the worst is a receptacle of foul air. It is not intended to say anything against regulations prescribing a minimum height for the tops of windows. It will be seen that in this plan the amount of solid wall is reduced to a very small amount, the principal item being in the chimney stack, which is necessarily high. There is also very little facing of any sort to provide, as the roof covers most of the outside: this is economical. The back wall may be of 9-inch brick or of concreted studding, as detailed later.



SECTION *

SCALE OF 5 0 5 10 15 FEET

MATERIAL.

The material of which cottages may be built will vary with the locality. There is, however, one material of the most invaluable nature that can nearly always be procured and profitably employed. That is concrete. It may not be adapted for the whole fabric of a building; on the contrary, it can seldom be profitably so employed; but for certain parts it is invaluable. Mr. Potter, one of the pioneers, and others have shown how concrete may be used much more extensively, but what is here recommended does not require special attention, training, or appliances. In most parts of the country there may be obtained gravel, stone rubbish and chippings, mine refuse, clinkers, or the rough part of clean engine ashes from any factory or extensive range of greenhouses, or even hard-burnt ballast. The architect will have a little difficulty at first in training workmen to the use of it; it will be found an invaluable material, not only for footings, but for the bases of walls as high as the plinth. There is no difficulty in staging so much, but any one can do it with a few scaffold boards and pegs, and the large number of bricks and the large amount of skilled labour that are swallowed up by this part of the work are thus superseded. The foot or more below the plinth can be afterwards faced up with trowelled Portland cement, which is effectual and effective, whatever the superstructure may be. A solid slab homogeneous with the foundation is thus obtained, giving immense strength. Of course, lime is of no use for this concrete; but the use of lime concrete may be considered absurd, as so little Portland cement or Selenitic concrete is required in proportion that it must always be cheaper. Some of the hydraulic limes may be nearly as effective. For foundations in trenches 1 of Selenitic to 5 of clean aggregate makes work as sound as a rock. Contrary to what the older text-books say, the aggregate of concrete for all architect's purposes cannot be too clean and free from sand; the elaborate instructions for proportioning clean, sharp sand are totally wrong, as any experienced concrete builder or any workman knows. It is high time this false instruction were corrected, as it might lead beginners very much astray. For the bases of walls 1 of Portland cement should be added to 3 of Selenitic lime,

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* In the section the ridge of the small dormer should have been shown as running through to the partition and supporting a purlin. The ground floor is shown as of concrete laid upon sheets of thin black corrugated iron clear of the ground. I have used this construction for some years, as where the material for concrete is at hand it is little more expensive than the ordinary floor.—R. N.

or Portland cement used alone. Such a concrete base can quite easily be built hollow by using a board slightly tapered: this is drawn up at intervals of about 18 inches, and brick ties inserted. The same plan may most profitably be used in building stone walls. The outer face is built of dressed stone, and the space to boards grouted in with pails of concrete. A brick wall may be built on the other side either solid or similarly grouted. For cottages a cheap wall in stone may be produced by forming a wood frame of 4-inch by 2-inch, or $3\frac{1}{2}$-inch by 2-inch, studs about 18 inches apart on the inside, and by then temporarily boarding this on the inside of the room, and then filling between these boards and the stone facing with concrete grouting poured in by labourers as the mason proceeds with the face. Rough nails driven half-way into the backs of the studs effectually keep them in place, and the studs afterwards serve for fixing joiner's work. This makes a much better wall than the ordinary stone wall filled in by hand with odds and ends and lumps of mortar. Brick facing can, of course, be similarly treated.

A very strong partition for internal work where floors have to be carried is most easily formed of uprights from 5 inches to 7 inches by 2 inches, at least 18 inches apart, with one or two half-inch iron rods run in each storey through the centres. Selenitic concrete is then filled in between the timbers, and the result is that a 6-inch or 7-inch wall thus formed can be obtained at much less than the price of a 9-inch brick wall, and little if at all more than the ordinary lath-and-plaster partition. There must be no cill, but the ends of studs held in place by boards. Of course, in this form of wall the wood might rot away without affecting the stability of the iron and concrete. This same construction can be very economically used when the wall is to be protected by weather tiles, and if the concrete be formed of clean cinders (as from their lightness is often desirable, especially for overhanging walls), the weather tiles can be quite easily nailed into the concrete, and this is an immense advantage. For building with Selenitic mortar, two half bricks with a hollow is of ample strength for cottages, provided vitrified brick ties are used, and not iron abominations. There is one great advantage in such walls, that they must be solid brick, and there is no room for batts and fillings of mortar rubbish. In Surrey, at least, and probably in most places, no solid brick wall will keep out the weather.

Another cheap way is to build a rough 9-inch wall and rough-cast, and this is useful where one can get bad enough bricks. Of course, no self-respecting architect now allows a wood plate or even a wood-brick to be built into a wall, as any bricklayer can make the necessary provision for fixing with a little Portland cement and ashes or breeze used in place of the mortar-joint. If the joists, as in the section given, be allowed to run a little over the front wall, there is no possible occasion for a wall of more than two hollow bricks. The two or three top courses of this can be built solid, and with at least two projecting courses forming cornice that brings the wall to 14 inches at top. Facilities are thus given for a projecting window below and a wide window board—the cottager's delight.

Where weather is severe, there is no better protection than weather tiles, which can be nailed into concrete as mentioned above. Rough-cast can also be most effectively used. This may be simple rough-cast, and for this purpose Selenitic lime is excellent, or may be pebble-dashed. In Devonshire quartz pebble has been used, and in Gloucestershire a bright crystal of barytes found on the spot that produces a charming effect. Timber-frame work, painted black or white, is a very favourite style; but on no consideration should it be used on a S. or W. side. On the N. and E. sides it stands perfectly. Oak is most costly and untrustworthy, and fir is preferable: this should be Burnetized or kyanized, or treated by some process. For facing between the timbers Selenitic lime is a nice, warm, brown tone, but Portland cement can hardly, by any means, be made to look right with a natural surface. If mixed with a little Selenitic it makes an excellent material for relief work.

One cannot advocate too strongly the abolition of the joist and board floor in all cases, and particularly in cottages, where the space between always becomes a hotbed for vermin. If gas breeze or clean-sifted ashes can be procured at a reasonable rate, a floor can be very economically formed. Two light wrought wood girders should be run across the rooms in the direction the joists would take, and the floor formed on them. A 6-in. floor with $\frac{1}{2}$-in. iron rods laid two inches from the bottom of the concrete and every foot apart is sufficient for anything. The beams are probably not really necessary, but would save labour in staging, and act as a tie in place of the joists. The rods may not be necessary, but are a very desirable addition. In repairing old cottages such a plan will be found invaluable, as it allows one to retain and utilise the old oak beams and joists, and procure a level floor without the tedious and expensive process of firring up. The floor can be floated in cement, or boards nailed directly on the concrete; but perhaps linoleum or other material is a much more sensible covering, if prejudice could be got over. In Yorkshire, floors were, within the memory of some living, formed of plaster, laid on reeds; so possibly in some parts of the country there may be less opposition to the plaster or cement surface. Kent, the architect, had put a similar gypsum floor over the oak joists of Waynflete in the remaining gate tower of Esher Place. With regard to stairs, it must always be remembered that furniture and sometimes a coffin have to be carried up and down.

RESTORATION OF OLD COTTAGES.

In restoring old timber cottages the first thing to do is to get rid of the vermin, usually fleas. To effect this the chimneys must be stuffed with sacks, and all openings stopped as far as possib'e. Old frying-pans or similar vessels should then be placed on three or four bricks in suitable places downstairs, and be filled with stick sulphur, which must be lighted, and the place shut up for a day or a night. This treatment must be repeated at the end of a week or ten days, so as to catch the new brood—one application is of no use. Between the two fumigations it is very desirable that skirtings should be taken off and floors taken up, if it be intended to clear these out. In cases of very old buildings everything should be moved.

In the case of timber cottages it is essential that the structure should be restored to its true level. It will nearly always be found to have dropped somewhere, owing to the decay of the posts; it is quite easy to put it level again by using screwjacks. In some cases, where the ground has risen around a cottage, or the height is unusually low, the whole framework may be raised; but advantage should not be taken of this to get more than about 7 feet in height, or the whole proportion will be spoilt; a damp course will naturally be inserted. A few years ago, at Wonersh, in Surrey, the writer succeeded in raising 18 inches the upper floor of a long building that had been formed into three cottages. The rotten ends of posts were first cut off, and then, with the aid of ten jacks, the whole building was screwed up to word of command. In screwing up, advantage should be taken of the tile stripping that is generally necessary, and of course the frame must be disconnected from the brick chimney, and the fire openings must be altered. Many old cottages have oak girders and joists which are either exposed to view, or meant to be; the tops of these are rarely level, and firring up gives great trouble. The plan is to clean the joists and secure to girders with iron on tops, lath all over the top, and form a 4-inch to 6-inch floor of concrete of breeze or clean ashes. The only use of the laths is as a cheap substitute for a temporary plank staging, since it must be remembered that in a small building the planking for concrete may easily become very expensive. The great openings of old chimneys, where the bacon once hung, give great trouble. It is easy enough to close the top of the ingle nook and use an American stove, but then there is an enormous accumulation of soot going on that must some day be dangerous. The plan adopted by the writer is to cut out the internal face of the brickwork and build new sides and front to the flue, until the regular 14-inch or 18-inch flue is reached.

9, Conduit Street, London, W., 31*st December* 1896.

BRICKWORK TESTS.

Discussion of the Report on the Second Series of Experiments.*

Professor UNWIN [*H.A.*], F.R.S., said he believed he was expected first of all to say a word or two about the Appendices he had put to the account of the experiments. To one of them he need hardly allude at all: it was an account of a further testing of the hydraulic press during the second series of experiments, to determine the friction of the press. The press had improved by a slight amount in the interval between the first and second series of tests; the friction was a little less in the second period of testing. He had given also, for comparison with the previous tests, some tests of the new bricks used in the construction of some piers which had still to be tested. There were also some further tests of the lime and cement used in the piers. During the tests it had occurred to him to make a small experimental research upon the influence of form on resistance to crushing. In the ordinary tensile tests of a bar it had been almost universally assumed that the tenacity of the bar—that is, its resistance per square inch—was practically independent of the form of the test bar. One knew now that that was not quite true; that it was only in geometrically similar bars that one got exactly the same tenacity. In the case of crushing, the resistance depended still more on the form of the specimen crushed. The old assumption that one might take a cube, a prism, or a cylinder, and crush it, and compare the crushing resistances, was to a certain extent a mistaken notion. Quite early, French experimenters proved that, in the case of crushing, the resistance depended very much on the form of the specimen crushed. Bauschinger made experiments on that question some years ago at Munich, and more lately Martens at Berlin had made additional tests. The difficulty of determining the influence of form was that one had to find a material of very homogeneous and uniform quality, so that there were no discrepancies introduced from variations in the quality of the material as well as differences due to the form of the test block. It occurred to him that ordinary red rubber brick would be very good stuff to use. One could cut it easily into suitable blocks, and it was of fairly uniform quality. He had prepared a table of the crushing resistance of some prisms of red rubber brick, which were square in section and of different heights [p. 102]. When they were one inch in height they carried 125 tons per square foot before they crushed; when they were two inches in height they only carried 87 tons per square foot before they crushed; and when they were four inches in height they only carried 75 tons per square foot before they crushed. That was not a case where bending came in; the prisms were too short to bend. The cause of the variation of strength was a different one. Even in quite short prisms the form of the specimen had a large influence on the crushing resistance. There was a further table of the strength of some rectangular prisms and of the relative strength of a whole and a half brick [p. 103]. The half brick was weaker than the whole brick by $8\frac{1}{2}$ per cent. With regard to the matter more particularly under discussion, he had looked carefully over the results obtained in the last series of tests, and compared them with the results obtained in the previous series. The tests were not complete, but practically the tests of square piers were completed; the further tests to be made were on piers of a different form; so that although he was not going to say anything final about the results, there were one or two points to which he would call attention. Studying those tests, there were two anomalies to be observed in the results. First, that there were a few piers built at a later date than the first: they were built with a different lime, a different cement, and different sand, and they were built with very much greater care. If the piers built at the later date were compared with those built at the earlier date, it would be found that the piers built at the later date invariably carried more, generally twice as much as the piers built at the earlier date. To take a single instance: comparing the gault brick piers in cement of about three months old, the first-built piers carried only 18 tons per square foot, whereas those built at the later date carried 49 tons. Taking the Leicester red brick piers, those built at the earlier date carried 58 tons per square foot, and those built at the later date carried 86 tons per square foot. Taking the Staffordshire brick piers, those built at the earlier date carried 72 tons per square foot, and those built at the later date carried 103 tons per square foot. There was an anomaly which wanted some explanation, and to the interpretation of that some importance was to be attached. In Mr. Max. Clarke's account of the tests he rather laid stress on the fact that more care was exercised in the building of piers at the later date than in building the earlier ones; and he said that they had there a lesson as to the great necessity of care in superintending the building. There was, however, another cause for the discrepancy, and that was the change in the materials of the mortar. He was inclined to think that nearly the whole of that difference was simply and solely due to the difference in quality of the cement or sand used in making the mortar. It was too soon to put that forward yet, because his tests on the mortar were not completed; but from what he had seen in one or two experiments with cubes made at the earlier and later dates there was quite as much difference in his cubes as there was in those piers, and he thought that nearly the whole of the difference would turn out to be a mere difference of the quality partly of the cement and the lime, but chiefly in the quality of the sand used in making the mortar. His first point, then, was that the later series of tests must be classified wholly apart from the earlier series of the different piers; they were not built of the same materials. His second point was that probably nearly the whole of the difference was due to the quality of the mortar. The second anomaly he had referred to was a very curious one, and he could not give an equally good explanation of it. Taking the tests in order, they would find that in some the piers built and tested after four months carried more than the piers after standing for ten months. He could not explain that; it was a very curious anomaly, and he did not know what to make of it. There ought to have been a gain in strength instead of a loss of strength. He should attribute it to the action of the frost, only he did not think that there was any frost which affected the piers after they were built. With regard to the special experiment suggested by himself, of which the drift, perhaps, was not seen, he had suggested that a pier should be built up with no mortar in the joints, but with merely enough sand to make a bed for the bricks, and then to have it crushed. The Committee had been good enough to carry out that test, and he thought the result very instructive. The sand was that used locally—a dry sand, and about a quarter of an inch thick. There was no lateral adhesion at all. On asking the result of the experiment, he was told that the pier did not carry anything at all. He was rather disappointed, but he had since seen the actual result. So far from carrying nothing at all, that pier carried $33\frac{1}{2}$ tons before it gave way, and he thought if any one saw $33\frac{1}{2}$ tons in the flesh in the shape of an iron block he would say that it was by no means a small load for an 18-inch pier to carry. But, further, the pier of Leicester reds built in sand carried a greater load per square foot than the average of the London stocks in lime, either at 18 weeks or at 43 weeks, and not much less than the gault bricks in lime at 18 weeks or 43 weeks; it carried a load which was about half the load of the Leicester red bricks built in lime at either 18 or 43 weeks. It carried a load greater than the London stocks built with cement after 21 weeks, and very little less than the gault bricks built with cement after 21 weeks. That was a kind of limiting experiment: it showed the result of building a pier with no lateral adhesion of the parts. It carried quite as much as one could expect, and had done very creditably. One other point: a great deal of importance had been attached in the experiments by some of the speakers to the question of the joint in the piers in which there were some closers. The pier in sand was practically all closers. It had no lateral adhesion at all. It had no bond except the slight friction of the bricks on the sand. He did not pretend to infallibility about brickwork, but his view was that too much importance was attached by some architects to the question of the closers. If they had a pier built with mortar so bad that there was no lateral adhesion, then it was a bad thing to have those joints with closers; but if they got good enough mortar with a good deal of lateral adhesion, he did not think it mattered whether they had those closers or not; it was all a question of the quality of the mortar used.

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* The full text of the Report, with Appendices and Supplementary Paper by Professor Unwin, F.R.S., read at the Meeting of the 11th inst., is printed at pp. 73–103.

Mr. HENRY DAWSON [*F.*] said he understood that the 18-inch pier built with Leicester reds and with sand joints gave way at 15 tons—actually crumbled away at 15 tons. That was a very different thing from the Leicester reds that they had in cement, which only began to show cracks at 22 or 23 tons.

Mr. WILLIAM WOODWARD [*A.*] asked whether the brickwork was grouted at all with mortar or cement in either of the cases mentioned. The result of the experiments seemed to him astounding. Did he understand from the Professor that, given two piers built at slightly different periods with the same quality of brick, the enormous discrepancy shown was due entirely to the joint? Because if so the observation made as to the superintendence of the work during its progress became of even more importance. Then, too, the statement that the pier that was built, or had been allowed to stand for 10 months, was weaker than the pier that had stood three months was another astounding proposition. In fact, judging from one's experience in building operations, the result of the experiments would lead one to suppose that there must be something radically wrong in the system or method of the experiments; that the pressure brought to bear must have been of some artificial kind, or have been made in some manner not at all conclusive as to the pressure that brickwork would sustain. The accounting for its operation by the Professor seemed to him (Mr. Woodward) to be of the weakest possible description. The Professor had said that he was not acquainted, familiarly acquainted at all events, with the pressure upon brickwork; and in that case Mr. Max. Clarke should inform the Meeting of something more definite than the somewhat superficial reasons which the Professor had given for these enormous discrepancies. It upset the whole theory of their experience in brickwork. The Professor or Mr. Max. Clarke should give more particulars as to the character of the brick; whether the sand was Thames sand or pit sand; as to the thickness of the joint, and whether the brickwork was grouted—in fact, they should give more of those details which architects who wanted their work properly executed were in the habit of looking into.

Mr. WILLIAM WHITE [*F.*], F.S.A., entirely endorsed Professor Unwin's observations upon the necessity of having good sand, and related a little experience of his own in the case of a small vestry in the country, which cost some £70 or £80. When finished, it showed signs of settlement, and the builder, a local man, insisted that it was due to the construction of the windows, which lacked sufficient abutment to carry the arches, and also to the weakness of the roof making the walls to spread—the walls had gone out an inch or two on each side. He (the speaker) insisted that the quality of the mortar was at fault; that the construction had nothing whatever to do with it. The builder called in a local man, who styled himself a surveyor, and who made a report stating that the matter must be submitted to arbitration, for the construction was in fault. Instead of replying, he (the speaker) sent down a clerk of the works whom he could trust to examine the work. He had the work taken down by the builder. The mortar proved to have been made with the old mortar powdered up. It was reconstructed just as before, only with proper ordinary sand and lime, and it stood perfectly well. The experiments seemed to emphasise the fact that it was the closers which formed the weak point and which diminished the strength of the piers enormously. He had had piers constructed without closers. That was a difficult thing with 18-inch square piers, but with 2 in. bricks by 2½-in. bricks it was very easy to construct piers with a proper bonding throughout, only one could not break the joint just in the ordinary way of English bond. The rigid but needless uniformity of bond in alternate courses must be abandoned. Constructed in that way he was quite sure they might be made much stronger. He should like to see that experiment carried out—two equal piers, one with closers and one without.

Mr. P. GORDON SMITH [*F.*] said it had been very gratifying to the Committee to find that one of the Allied Societies, the Sheffield Society, had taken a keen interest in their experiments. They had been furnished with a set of bricks similar to those experimented upon by the Science Committee, and they had placed them in the hands of Professor Ripper, of the Sheffield College, who had prepared a table of results. They differed only slightly from the Science Committee's results, and showed that Sheffield stock bricks were much stronger than the London stocks. Earlier in the year, when giving the results of the first series of experiments, something had been said about the money to carry on the work, and it might interest members to hear how the money had been spent. They had had some 50 yards of railway to construct—rails and sleepers upon which to move the piers into the testing machine. They had used some 15,000 bricks of one sort and another, some few yards of lime, four tons of cement, and so on, besides the labour; so that it was easy to see where the money had gone. Before sitting down he should like to ask the Institute to record their acknowledgments to Sir William Arrol for the use of the powerful testing machine. They could not possibly have conducted the experiments without it, and he had very kindly placed it entirely at their own disposal for these experiments. To Professor Unwin, of course, they owed very great thanks—in fact, the experiments could not have been initiated without him, and he had given much valuable advice throughout. They were also greatly indebted to Dr. Longstaff, who had helped them with money to carry on the experiments, and to Mr. Donaldson, the Engineer of the Docks Company, who had afforded them great help on the spot. To all those gentlemen their best thanks were due, and he had much pleasure in moving a very cordial vote of thanks to them.

Mr. JOHN SLATER [*F.*], B.A., in seconding the vote of thanks, said that Mr. Woodward seemed disturbed in his mind because the results of the experiments were so entirely different from what he expected. He was inclined to think that Mr. Woodward had in him a good deal of the spirit which actuated the old Inquisition when Galileo found out that the earth moved round the sun; they told him that it did not, and that if he said it did he would be executed. It appeared to him that Mr. Woodward would like to execute Professor Unwin because he had come to an opinion so diametrically opposed to what they had been led to expect. But as a matter of fact this was the first time that experiments of this nature and on this scale had been carried out at all, and it was by no means wonderful that the results of those experiments should go to show that the old rule-of-thumb upon which they had been going was not correct. One of Professor Unwin's most interesting experiments was that which showed that the form of the compressed surface had a good deal to do with the pressure it would stand. It had always been the custom to provide a base for a column or stanchion of a certain thickness; but it now appeared—if the Professor's experiments could be relied upon, and there was no reason why they should not—that they were probably making a great mistake to increase the thickness of the base when it had to carry a certain weight beyond a certain point. Of course there must be some limit, some minimum thickness; but the Professor's researches showed that to go beyond a certain thickness was to increase the liability of the compressed surface to crack. It had occurred to him while listening to the remarks, and looking at the illustrations, whether it was possible that the introduction of closers having an effect upon the pier was due to the fact that these particular closers were considerably higher compared with their area than the rest of the bricks. If the piers were weak where the closers occurred, might not the fact discovered by the Professor have something to do with it? Because a brick had a less height compared to its area than the closer had, and that might have some influence upon the piers. One could not, of course, help observing the enormous mass of discrepancies the results showed as to the weights the piers sustained; and Professor Unwin, he was sure, would agree that it would not be wise to calculate too precisely; but he thought one conclusion at least had been come to—that brickwork in mortar and brickwork in cement, if properly constructed, would carry much more than they had supposed. An ordinary wall properly built would never have to sustain anything like the crushing weight that would cause the wall to fall simply from its own structure, mortar, &c.

Mr. HUGH LEONARD [*H.A.*] said that the experiments, although they presented many discrepancies, afforded a great deal of useful information. The sub-committee who had carried out the work deserved the greatest credit and the best thanks of the Institute. He had been present during some of the experiments, and he believed that the general body of members could hardly appreciate the amount of work that had been done by the Hon. Secretary and the other members of the sub-committee. It was a pity that at the beginning the first piers were not constructed as carefully as they might have been; the defective work came quite as a surprise; but, taking both sets of experiments—the piers which were and those which were not carefully constructed—a great deal of useful information had been gained.

Mr. HENRY DAWSON [*F.*] said he should be sorry if members went away with the idea Mr. Slater had put before them, because his own conclusions were quite different. He considered the figures of the two sets of experiments, if carefully examined, would show it to be the reverse of what Mr. Slater said. These recent experiments, he submitted, distinctly showed that brickwork, as had been described that evening, would not carry much more than one half of what they had been accustomed to believe. That was a very important result. With regard to the material called "London stocks," he considered such description a misnomer, for there was scarcely any such brick nowadays as a true London stock. The bricks used in both series of tests, and called London stocks, were not London stocks, but were similar to the larger number of those now used in London, and which mostly came from Kent, near and beyond the banks of the Medway. In his own practice for some years he had forbidden their use in any important building. As to the stock brick piers in the experiments, if the results were carefully examined, it would be found that they did not bear safely, when built in lime mortar, more than about five tons to the square foot; nor, before they began to crack seriously, more than about seven tons; that still more serious cracking took place at ten tons, and that they crushed altogether at about twenty-two tons. He had to make some experiments many years ago with "London stocks" in comparison with gault bricks, and the former were true "London stocks," made in one of the well-known brick clay fields around London, and the "gaults" were made at Arlesey, in Bedfordshire. In those experiments they tried six different lots of London stocks and six different lots of gault bricks, and the average result was, that no serious cracking in the stock brick piers took place, that is, when the pier would be of no further use, until the weight per square foot reached twenty-six tons, and in the case of the gault brick piers until the weight reached about fifty-four tons. That showed most palpably the difference between the real London stocks of former years and the so-called London stocks of the present day. The size of the piers in the experiments referred to was, he thought, 14 inches square; they were low piers, but all alike, and, therefore, it was a fair comparison. In his opinion the best stock brick now made in the neighbourhood of London, and the best substitute for the former London stock, were those called "Cowley stocks," and made in the district between Southall and West Drayton, Middlesex. He was confident that if the Cowley stocks were tested, they would yield a very different result from the stocks used in the recent experiments.

Mr. BERESFORD PITE [*F.*] asked whether the Committee would favour them, through Professor Unwin, with a little further information in one instance—viz., as to the specification or analysis of the sand. It seemed to him so much depended upon the sand that it would be of the greatest interest if that information could be given. Again, might they hope to be delivered from the rule-of-thumb method of calculating safe loads? The experiments would be practically useless unless some efficient and satisfactory guide were given for ascertaining safe loads from the results arrived at.

The HON. SECRETARY asked whether note had been taken of the difference in the crushing load if bricks were used with frogs or without. Also, as to the ten-months-old piers, in which the mortar or cement would be set hard, whether the comparatively sudden application of pressure by the ram caused them to fail under a less weight than would be the case if the load had been gradually piled on while the piers were green, as in the ordinary course of building.

Mr. F. T. READE [*H.A.*] said he would make a few remarks on a point not touched upon by the Science Committee—viz., the bedding of stanchion bases on bed-stones, and the bedding of these bed-stones on the piers. They would have noticed in the report of the first series of experiments [Vol. III. pp. 341–2] the precautions taken to ensure a fair distribution of the pressure over the whole area of pier, and it was to this matter he particularly wished to call attention. Several cases of failure from the neglect of such precautions had come under his own observation. He selected two of them. The first occurred in Liverpool. His firm had designed the ironwork, and given sizes of piers for a large stone-fronted building, and the builder's work was let in two contracts, so that there was an interval of nine months between the building of the piers and their failure. When the building was partially occupied, several reports were received from the architect that the iron stanchions were not quite vertical over the piers, and he thought this deviation from the perpendicular had occurred since the completion of the building. He went to Liverpool, inspected them, and found the stanchions were from $\frac{3}{8}''$ to $\frac{5}{8}''$ out of the perpendicular, and also that some of the piers inclined inwards to the extent of $\frac{1}{2}''$; but after a careful examination of the bases and bed-stone joints, and also knowing that a low limit of pressure on the piers had been taken—viz., 8 tons per foot when *all* floors were loaded—he concluded they had been built so; that it was bad workmanship, but did not greatly matter. About a month after this visit he received a telegram: "Building failing; come on at once." On his arrival in Liverpool the same afternoon, he found that a pier $40\frac{1}{2}'' \times 36'' = 10$ feet area, and whose load when every floor was loaded was about 82 tons, or 8 tons per foot, had developed large cracks on two sides about 18″ and 9″ from one corner. The bed-stone, 12″ thick, had three cracks quite through the thickness of the stone, and the building was evidently in a very risky condition, especially considering that the floors were mostly unloaded, and the actual load then on the pier was only about $5\frac{1}{2}$ tons per foot. It may be noted that the experimental pier built in sand at Professor Unwin's suggestion failed at about the same pressure. After taking immediate precautions against accident, and consulting with another engineer—various patching processes were discussed (to all of which he, Mr. Reade, objected)—it was at last decided to take out and rebuild the pier. He need not describe the processes adopted; they were quite successful, and the pier was removed. The bricks were good, hard bricks, and the mortar (made with local limes, slightly hydraulic) was apparently excellent. The mortar joints were so hard on the face of the pier that one could only just scratch it with a knife; but about $4\frac{1}{2}''$ in from the face it had never set at all, and had no more cohesion than if it had been sand, so that the inner portion of the pier was little better than a loose pile of bricks. The bed-stones were got out as carefully as possible in five pieces, and it was found that the stanchion base had been very imperfectly bedded on a thin smear of cement, and the base only bore on about five points of very limited area. That accounted for the fracture of the stone, and that having given way, it began to press on the loose central cone. This in its turn pressed out the sides of the brick box, and produced the ominous cracks on two sides. The concrete was found to be all right, and the pier was rebuilt the same size with new harder bricks in cement. As an object lesson in shoring, he might mention that in the hurry of the business he put in the crosshead (on which the iron was carried on the vertical shores) of pine 12″ × 12″—its span was only about 36″—but when the load of about 58-60 tons was on it, a series of annular cracks showed at the ends that were very unpleasant to see. This crosshead ought to have been sound oak. The second case was in London in a large block of residential chambers, pier 45″ × 45″ = 14 ft. area, total load 114 tons, or 8 tons per foot, actual load at time of fracture 55 tons, or 4 tons per foot. The bed-stone, 12″ thick, was cracked in two places, right through—crack widest at base. A very wide crack in the top course of brickwork followed from the same point, and, passing through the line of closers, tapered off to a fine crack about 24″ from top. The first cause of failure in this instance was the absence of any real cement bed between the stanchion base and the bed-stone, the former bearing hard on the stone at one side and a bare $\frac{1}{4}''$ thickness of cement on the opposite side. The joint of stone on the brick pier was very similar. On one side the stone rested on the bare brickwork, no cement showing, and only about $\frac{3}{16}''$ thickness of cement on the opposite side. The thinner side of the cement joint between stanchion and bed-stone, and bed-stone and pier, were below one another. The crack in the stone, being widest towards the bottom, showed a slight sinking of the broken part toward the centre, which caused a lateral split in the brickwork, the crack in which at the top was of equal width to that at the bottom of the bed-stone, and in the worst case disappeared at 12 courses down from the top of piers. The brickwork, though assumed to be built in cement, was pulled down with little difficulty, showing that the cement had not set thoroughly, and was probably of inferior quality or gauged too weak. There was no clerk of works on the building. Although these two piers were complete failures, they were of ample strength, had the bedding of stanchions, bases, and bed-stones been carefully done. From these two startling examples, he hoped that all architects would come to the conclusion that it was impossible to give too much care and attention, not only to the building of the piers themselves, but also to the careful bedding of stanchions, bases, and bed-stones on the brickwork. And in all cases where it was practicable to make the base of the stanchion or column of sufficient size to transmit the load direct on to the brickwork, and its edge not more than 2½ inches from face of pier, it was of advantage to omit the bed-stone, for one bed joint, a possible source of failure, was thereby saved.

Mr. BRUCE J. CAPELL [*A.*], speaking as to the time during which the load was acting on the piers, remarked that it had been suggested that the sudden application of the load must have had something to do with the failure taking place earlier than it would otherwise have done. He, on the other hand, would ask whether it was not very probable that the piers would have failed under a lighter load if it had been pressing thereon for a longer period. He put his ear to some of the piers as the pressure was applied, and, long before the failure, heard a peculiar cracking noise, and his idea was that if the pressure had not been increased, but had merely continued, the piers would have failed under lighter weights than those recorded.

The PRESIDENT said it was very unpleasant to find that the old theories they had worked upon were no longer tenable; but that was the effect of scientific investigations. There were many points about the tests which required elucidation. In the first place, a good number of the bricks with which every pier was built ought to have been tested, so as to discover what the average of them would bear. Bricks of the same sort were by no means all equal in strength, and it was quite possible that the best and worst specimens of each sort greatly varied; the London stocks, the Leicester reds, and the blue Staffordshire might have varied greatly in their capacity for bearing loads. There was another point, as regards the mortar—it was the fashion now to call cement mortar too. A good deal had been said about the sand. It might be the cause of the irregular results, but, to be sure, they wanted to have experiments made on that. They also wanted to know the proportions of the elements of which the lime was composed, the way in which it was burnt, and its weight. And then they also wanted to know the proportion in which the sand was mixed with it. He had some experiments made years ago with lime mortar. The lime was chalk lime, without enough alumina in it to make it hydraulic; and the sand was pit sand, almost as fine as flour, and with yellow clay dust amongst it. He found a great difference in its cracking strength, according to the proportion in which the sand was mixed with the lime. The mortar was accurately measured and mixed: it was set in moulds 1 inch cube, and tested between 137 and 144 days from being mixed and put into the moulds.

					cracked.	
2	parts	sand	to	1 lime	63	lb.
3	,,	,,	,,	,,	106	,,
4	,,	,,	,,	,,	114	,,
5	,,	,,	,,	,,	59	,,
6	,,	,,	,,	,,	30	,,

The crushing weight was but slightly in excess of the cracking weight. The exact proportion was the one point that very few of them took the trouble to ascertain—whether sharp sand had really much influence on mortar had to be proved. If the lime, as was believed, dissolved a certain proportion of silica from the sand, it was important that that sand should not be mixed with earth. When they had got the proper proportion of sand to lime, they wanted to know the effect of time on the hardening of the mortar. In an 18-inch pier, if the air was to bring in a certain proportion of carbonic acid gas, they wanted to know how far it got inwards in a certain time, which was not, he thought, to be calculated by months, but by years, if not by centuries. The excellence of the workmanship had much to do with the strength. The late James Walker said, "The cause of failure is always bad workmanship." Mr. Pite wanted to have a rule by which the safe load could be calculated from the breaking weight that was found by experiment; the present rough rule was one fourth. Such a rule, he thought, was impossible to be obtained, for these reasons: One must not only know that the materials used in the building are equal in strength and other qualities to the material used for the experiment, but that the workmanship of the brickwork in the building was equal to that in the experimental piers. They had been told that the bricklayers who built the experimental piers put in closers of common stocks, to save themselves the trouble of cutting the blue Staffordshire bricks. Think, then, of the work done by an ordinary bricklayer in ordinary work where no particular supervision was exercised! As a rule, the cross joints of brickwork were never wholly filled up—sometimes from mere carelessness of the workman, but quite as often from variation in the size, and the irregularity of the bricks. When a joint was from ½-inch to ¾-inch wide, if a careful bricklayer were employed, and the mortar were not too stiff, it could be chopped in with the trowel; but where the bricks almost touch, unless the brickwork is well and properly grouted, no mortar could be got in at all. They must remember that a bricklayer could not take the time to cover the whole vertical face of each brick with mortar. Nor if he did so could he make both faces fair. If the face of one brick were full of burrs, or the brick were twisted—a common fault in all stock bricks—he must then have a thicker joint. All these things tended to show that it was quite possible that the cracking or the crushing weight must almost of necessity greatly vary in experiments, and would vary still more in ordinary work. Another experiment was wanted for each, *i.e.* the cracking and crushing weight of an 18-inch cube, so that it might be seen if binding stress came in when the pier was four times its lateral dimensions, *i.e.* if piers six feet high were found to be weaker than 18-inch cubes. If they were, then experiments on higher piers were wanted, so tha a formula might be deduced for piers of all heights, as was done in the calculations of the strength of columns. He was not prepared to say that a perfectly level surface of cement was not the best surface for bedding brickwork on; but at the same time he would rather have had experiments made as to which was the best bedding. When trying experiments on cubes of stone, brick, or concrete, one mostly used ¾-inch stuff of soft pine; some people used wash-leather, and some lead. Professor Unwin had mentioned in his book that lead was a very bad material indeed; but people of his (the speaker's) age knew that it was the universal practice to put lead between all the bearings of iron on iron, or iron on stone, and old stone columns might be found with the lead of the joints projecting before the column. Cast-iron plates, more especially if they were cast on to a stanchion or column, were almost always hollow, and should, when it could be afforded, be faced in the lathe. If that hollow was not perfectly filled up, instead of getting a uniform pressure on the part beneath, it was got round the edges; or if the surface was not smooth, they got it on small points; and if it had a caulking, the mortise cut in the stone must be sufficiently deep to prevent it touching. As a schoolboy, he remembered seeing a pier in a warehouse which had cracked in all directions directly the warehouse was loaded. The floor and stanchion above were shored up, and the pier pulled down, and then it was found that the mortise in the stone was too shallow for the caulking, so that the whole weight of the floors above was concentrated on the middle of the stone by means of a caulking 1½ inch square: this had split the stone, turned up the edges, and forced the middle down, and so split the pier. When the pier was rebuilt the same size as before, it stood, and, so far as he knew, it stood to the present day. Procopius mentioned that at Santa Sophia they did not use mortar or asphalt, but ran the joints with lead, which, Professor Unwin said, was the very worst possible method of getting security. Procopius, like most historians, did not even take the trouble of asking one of the architects why settlements took place; but he asked all sorts of other people who knew no more about it than he did himself. Procopius spoke of the excellent advice Justinian had given to the architects, which turned out most admirably. They would remember the kind of Court there was in Byzantium, and that this was done purely to flatter the Emperor. In his younger days he had himself made a great many experiments in a rough way. All his experiments were made on 9-inch cubes of brickwork, which bore over 17 tons, or about 31 tons to the foot superficial. The bricks were London stocks set in Portland cement, the cubes weighing on the average 42½ lb., and had been set for about eight months; they were crushed in the press between ¾-inch pieces of soft yellow pine, and he found that 9-inch cubes of malm paviors in Portland cement bore very much less—*i.e.* about 14 tons, or 25 tons per foot superficial. One other subject he would mention—viz., Gault bricks. They were very pretty to look at, and under pressure bore considerably more than the stock; but they were a most detestable brick to use. Under certain conditions (what those conditions were he could not say) the faces flaked off like slate, many of the walls on the platform level at the stations on the line from Baker Street to Harrow having had to be refaced in his time.

Professor UNWIN, replying to Mr. Emerson's inquiries, said that, so far as he knew, a frog in the brick was a distinct cause of weakness. As to the second question, the element of time acted in this way: that the more slowly the test load was applied the lower was the crushing load. The loads were not applied very quickly in these tests, and he did not think it would have made a great deal of difference if they had extended the time of applying the load over one hour or two hours or more, instead of the time that was taken; but still the element of time was one in that direction. If they applied the load with velocity that was another thing, with a falling weight for instance. The load was applied in a way which they might call slowly; but if they had applied it much more slowly they might have had a slightly weaker crushing load.

Mr. John Codd [*A.*], writes:—It is disappointing to learn that the later experiments on the strength of brickwork have been conducted on the same lines as the previous ones. It may be interesting to learn with how little power it is possible to crush a pier of brickwork confined between two metal plates; this, however, is not what an architect is usually called upon to do. The practical question is, What is the load per foot superficial which can safely be put upon a pier or wall? Upon this question the experiments made appear to have but little bearing.

Mr. William C. Street [*F.*], Hon. Secretary of the Science Committee, writing since the Discussion above reported took place, says:—

In presenting everything connected with the tests as fully and accurately as possible, deferring reasoning or explanations till later on, we have aroused much criticism from members who have not attentively followed our proceedings and studied the tabulated results.

The table of averages has given occasion to many remarks, though we have already explained that the discrepancies are the result of the different qualities of workmanship. The remarks and footnotes to the tabulated results of Piers Nos. 12, 14, 16, 27, 28, 30, and 32 are sufficiently descriptive of this. One of the worst characteristics of bad workmanship is its irregularity; and while we are willing to face the bad or ordinary method as affording the safest guide in fixing rules as to strength, it is difficult to fix the limits of badness. There is no great temptation to vary the character of work in soft bricks, and if Pier 1A is taken away from the column for stocks, as being built in a superior manner and such as we shall never get in ordinary practice, the averages for that description of brick come out remarkably well, and it will be easy to fix the safe loads. The third series of tests, though upon what we believe will prove very superior work, should offer many comparisons between the different varieties of brickwork, and assist us to assess the value or strength of "ordinary" work in each description.

The proceedings of the Committee, as indicated by Professor Unwin, should have further importance than merely ascertaining the crushing resistance of certain brickwork piers; the form and dimensions of wall, the proportions of the mortar, the quality of the cement, lime, and sand, are all matters that immediately concern the strength of our work.

NOTES, QUERIES, AND REPLIES.

"Stucco Lustro" [Vol. III. p. 500].

From R. F. Chisholm [*F.*]—

In his article on "Stucco Lustro," Mr. William Scott says: "I am assured that when this stucco is executed with shell lime and marble dust, the white is absolutely unchangeable," and the Editor adds in a footnote: "This is the famous chunam used in India, a beautiful example of which may be seen in the great columns of the ball-room at Government House, Calcutta." It may be worth while to mention that the columns alluded to were not executed locally with powdered marble: they were executed many years ago by men and materials sent by me from Madras. In Northern and Central India the polished chunam is finished, as described by Mr. Scott, with powdered marble; but in Madras it is finished with a fine white quartz sand, found in the bed of a stream at a place called Amajigghery. The Madras work is considered so far superior that Government, as I have mentioned above, incurred the expense of importing both men and materials from Madras. Here in Baroda, before coating the surface of the Durbar Hall, I put both processes to the test by letting the North-West men with powdered marble compete with the Madras men with powdered quartz sand. The result was altogether in favour of the Madras work. The walls alluded to have now been executed nearly ten years, and the surface is purer and apparently more translucent than the surface of the white Carrara marble columns in the same hall. Leaving the materials out of the question, there is a sleight-of-hand knowledge required in pumicing on the dry quartz-sand, when and how hard to rub with the polished agate, and, above all, when to leave off rubbing. Still, all Indian workmen agree that their process cannot be accomplished with powdered marble.

Baroda, 1st *December* 1896.

The Fellowship Question: a Plea for Sweet Reasonableness.

From Frank Caws [*F.*]—

"The old order changeth." The Royal Institute of British Architects may not escape or evade this law of existence. There can be no standing still. Life involves motion, and all motion is revolutional. But sometimes the wheels gird, and the axle bearings whine; and then those who hold the reins have a more or less uneasy time. It is just so now with the Council of the Institute.

A certain German writer, who deified Friction, gave expression to this apparently profound idea: "*Life is unrhythm, death is rhythm!*" It may be some comfort, to those who accept that doctrine, to see in the disturbed, not to say warlike (!), state of mind now obtaining with the members of the Institute on this vexed Fellowship question evidence of so much "life" in our midst. We, in this age born of all the ages—that is to say, in this *period of roller bearings*, which may literally be styled the cycle of all *cycles* (!)—we are not Friction-worshippers; for while we know there can be no progress without resistance, we have also learnt that by minimising resistance progress can be marvellously facilitated. And we see that this, which holds good for the gay crowds of the young and fair, who make our highways hum with bright life, and help to restore to us "Merrie England," holds equally good in many other ways.

In this view of the case, it may be well for those members of the Institute who revel in dreams of fight with fancied "oppressors," and who, delighting thus in "beating the air," welcome a "breeze" in the counsels of the Institute, to reflect that the Institute is like a man whose strength is limited, and whose real advancement will be better served by reducing than by accentuating friction. Storms there must be, and volcanic eruptions too, in this world—yes, even in this beautiful little professional sphere of ours. But it is the sunshine and gentle rain which make the branches flourish and bear fruit; and it must ever be the gentleness of art, and not the ravages of the self-styled "reformer's" broom, which will make our Institute great.

For the Institute this is a transitional period; and, as architects, we need not revert to philosophy or political history; for, in our own province of archæology, we have ample illustration of how beautiful a transitional period may be. Could anything afford us modern architects a better example of gracious behaviour through a time of change than those dumb stones so well built together when the richly romantic Norman architecture was slowly yielding place to its keen young Early English successor? Dumb they are, yet eloquent of example to those of us who have passed the Associates' examination, and thereby taken our place in the Institute as members of the new order; for these Gothic pointed arches, blunt as yet, but instinct with that spirit of aspiration which was fully realised centuries later—these arches are not defaced, but glorified, by their zigzag ornament proclaiming their Norman extraction, and proving them no mere *parvenus*. Ought we not herein to learn to be proud, and not ashamed, to associate ourselves with members of the old order, men who have not passed the Associates' examination, but have designed and erected noble and admirable architecture? Ought we not to remember that Ictinus, Buonarotti, and Wren, to say nothing of the great men living with us yet who never passed our examination, would themselves, according to the mistaken zeal of some amongst us, have been blackballed had they been proposed to us by our appreciative Council?

Although blackballing is an institution in most English clubs, there is something essentially ignoble and un-English about it. The most deserving men are, as a rule, handicapped by their modesty, while quacks and humbugs are ever too ready to step boldly to the front. Some strong check is surely needed to prevent the ranks of the Institute from becoming filled with the latter rather than the former class of members. But blackballing is (as recent history of the Institute elections is said to have proved) a means of checking the entrance of good men, and is doing much more harm than good by the systematic way in which it has lately been levelled, without respect of persons, at all candidates who have not passed the Associates' examinations.

The Council are responsible to the Institute for the suitability of the men proposed for election as members—whether as Associates or as Fellows. But the Council, as at present informed, cannot possibly in all cases make sure of the suitability of the men they recommend for election. An idea has lately been submitted to the consideration of the various Allied Societies of provincial architects which seems invested with much practical wisdom. This idea is that the Councils of the Allied Societies may recommend to the central Council of the Institute candidates known to be suitable. There can be little doubt that, by means of such combination of the provincial councils with the central Council in the work of selection of suitable men, much greater discrimination would be observed than the central Council, from their limited knowledge of provincial architects, could well practise in their unaided selections; while in the case of London architects the London Council, assisted by the London Association, would possess information enough to guide their judgment. Perhaps the Blackballing Brigade, if they may be so designated, would readily signify to the central Council their willingness to abstain from blackballing candidates formally nominated, not only, as heretofore, by the central Council, but (in the cases of provincial architects) by the Allied Societies also. If such an understanding were reached, and loyally observed, that would, for the present at all events, permit of the enrolment of many excellent architects in the ranks of the Fellowship, so as to greatly strengthen both the influence and finances of the Institute.

It may seem pitiable that the inexorable financial necessity should have a deciding influence in the question of Fellowship now at issue. But it is the financial force which decides everywhere the fate of Societies as well as of individuals; and those amongst us who have hitherto, out of over-zeal for the enforcement of the examinational test, made use of the black ball, will in future do well to remember that the Institute, in its still unchanged state, is the parent, while the Test is the offspring; and, according to the fitness of things, the child must wait till the parent has died a *natural* death before coming into his full inheritance.

The laudable desire felt by those who were among the active early promoters of the system of examinations for the arrival of the day when the Institute shall feel itself able to make the long-looked-for "DECLARATION" [that henceforth none may enter the ranks, either as Fellow or Associate, without passing the Associates' examination], this desire, so ardently shared by the great majority of Associates and a large number of Fellows, cannot just yet be gratified; and in patience, as practical necessity dictates, we must possess our souls, not forgetting the adage, "The more haste, the less speed."

It is to be hoped that meanwhile the blackballing may give place to some such working understanding between the Architectural Association in London and the Allied Societies in the provinces and the central Council as shall enable the latter to carry on the work of the Institute creditably, to the satisfaction of Fellows and Associates alike, and to the general advancement of the interests of the architectural profession, without being further embarrassed by such difficulties as lately have confronted the Council.

But if, in spite of more moderate counsels, a clique of members should still persist in attempting, by a cowardly system of blackballing, to force the Council and the Institute to make the proposed "DECLARATION" before the time is ripe for it, a change of the By-laws will become imperatively necessary, such a change as can be constitutionally made by a vote of Fellows only, whereby the Council should be empowered, not only to select and propose, as now, but to *elect* in future all members, whether Associates or Fellows, such elections to be subject to veto, by a clear majority of not fewer than thirty-seven votes (*i.e.* one more than thirty-six, the number of the Council), at the first Business Meeting following the election; and, failing such veto, the elections by the Council should be held as confirmed.

No such change of by-laws would be needed if all members would endeavour in the present transitional period to show a little more of that sweet reasonableness for which the above is meant to be a plea. The writer commends this view of the situation to those particularly who, having subjected themselves to the examinational ordeal, resent the election of Fellows over their heads, who (for aught the said Associates know to the contrary) may have purposely evaded the same ordeal. The writer warmly sympathises with Associates who feel so; and it is to them he would appeal the more earnestly, because he believes the patience which he advocates would best secure the advancement of those higher interests of the profession which we all have at heart.

Sunderland, 20th Dec. 1896.

The Great Mosque of Damascus [p. 25].

Sir Charles Wilson, whose measurements of the Mosque of Damascus, made in 1865, formed the basis of the plan of the Mosque given in Fergusson's *History*, has forwarded to Mr. Spiers the following interesting extracts from his diary:

December 20th and 21st 1865.—Making plan, and taking photographs of the Mosque at Damascus.

The Mosque is on the south side of a large open court, and is divided into three aisles by two rows of columns. In the centre is a transept, having in its middle a small dome supported by four massive piers. The south wall of the Mosque is of solid masonry; the northern is formed by a row of arches carried on square pillars, with the intervening spaces, which were once open to the court, roughly closed. In the eastern part of the Mosque is the shrine of St. John, standing, it is said, above a cave in which is the saint's head. In the shrine is a cenotaph, covered, in the usual manner, with richly embroidered cloths or shawls. Within the Mosque are two fountains and a well. Most of the pedestals of the old columns remain, but in a sadly mutilated state; and a large number of the original columns are apparently still *in situ*. This is specially the case in the *western half* of the Mosque, which is by far the best preserved. In the *eastern half* several columns of smaller size have been used, and in some cases they stand on fragments of the original columns (a shaft 6 feet in circumference stands on the old shaft, which is 7 feet 1½ inch in circumference, and broken off about two feet above its base). In the *western half* most of the original capitals remain, but many are so injured that they would appear to have been thrown down and replaced. All these capitals are Corinthian, similar to those of the Kubbet-el-Kitab. In the eastern half there is a variety of capitals: two at the S.E. corner are Ionic; the two enclosed in the shrine of St. John are of late date; and many of the Corinthian capitals, which have been taken from other buildings, are too small for the columns on which they stand. Above the capitals are architrave blocks of a single stone each, and over these are stones which take the springing of the arches, and are cut to their curve; thus the arches, which are circular, are carried a little beyond the semicircle. The western half being under repair, and the plaster and whitewash being scraped off, the character of the masonry could be seen. The principal entrance to the Mosque leads from the court to the transept, and is very fine.

Round three sides of the court runs a cloister the arches of which are semicircular, and carried on square pillars and columns. The columns have Corinthian capitals and architrave blocks, and above them is a range of smaller arches as in the Mosque. In the north-west corner are four capitals, which appear to be Saracenic. There are three main entrances from the city to the court. One in the *east wall* has a porch and three doorways, of which the central door is covered with delicately worked brass. The Arabic inscriptions are in brass, and in the modern (not Kufic) character. On one of the columns is a mutilated Greek inscription. On the *north side* is a large single doorway, of which the door is similarly ornamented with brass. In the *west wall* is the third entrance, with a large central and two smaller side doorways; the porch is rather deeper than that of the entrance in the east wall. From this doorway a colonnade extends to the remains of the great arch and pediment; the capitals of the colonnade are plastered over, but enough can be seen to show that they are Corinthian. Opening directly into the western half of the Mosque, through the south wall, is a fourth large gateway, in front of which a similar colonnade can be traced for some distance. Several capitals and fragments of shafts were lying about in the court; and some of these shafts as well as some of those in the cloisters are of granite.

At the eastern end of the court is a small octagonal building, in which clocks are kept, but they had all run down. In the centre of the court is a fountain with four columns on which are Corinthian capitals, and the shafts of two columns used for the illuminations at Bairam. In the N.W. corner of the court is the Kubbet-el-Kitab, a small domed structure, supported on eight columns, with Corinthian capitals; in the dome were said to be fragments of MSS. in Kufic.

On several portions of the Mosque, the Kubbet-el Kitab, and the cloisters are large fragments of mosaic work (houses and arabesques), but not nearly equal, either in design or execution, to those in the "Dome of the Rock" at Jerusalem. In some places are patches of faïence work: the designs on the tiles are for the most part identical with those of the tiles in the "Dome of the Rock," but not with those of the best tiles in that building. The marble decoration inside the Mosque is similar to that in the Mosque el-Aksa at Jerusalem.

At the N.W. corner of the court are two small chambers, in the inner one of which is a Greek inscription. The inscription is on the lintel, and there are nine lines on the inner and five shorter ones on the outer face.

Outside the Mosque, and near the centre of the south wall, there is an old entrance: it consists of a large central gateway and two side ones. The top of the eastern doorway is just visible, and the western one can be seen by looking down a hole in the roof of a chamber. To this chamber there appears to be an entrance from the Mosque, but we were not allowed to visit it. The top of the central gateway rises a little above the rubbish; the ornamentation reminded us very much of that of Baalbek. On the architrave is the Greek inscription, cut on it at a later date; the last word is on a lower line. No trace of this gateway could be seen inside the Mosque, but it lies at the east side of the transept, as well as could be ascertained, in the position shown in the plan. At the S.W. corner, and along the western end, are traces of older masonry and more classic decoration, of which a photograph was taken (No. 13, Pal. Exp. Fund Series).

A short distance from the Mosque, and opposite to the west entrance to the court, are the remains of a large arch and pediment; on the east face the ornament is in tolerably good preservation, but on the west face it is quite obliterated. The style is the same as Baalbek. This also appears to have been a triple gateway.

At the east and west ends of the Mosque are several chambers. At the west end one of these opens into a small mosque; at the east end one gives access to the minaret at the S.E. angle. There are other minarets at the S.W. angle, and in the centre of the north wall of the enclosure.

It is difficult to determine to which buildings the existing remains belong. The gateway in the south wall of the Mosque, and the arch and pediment in the bazaar on the west side, apparently belonged to a temple of the age of Baalbek, and not to the church; whilst portions of the southern and western walls of the enclosure seem to be of much older date. A good deal of the church possibly still exists in the Mosque, which from its orientation appears to have followed the form of the church. The small *mihrabs* are cut out of the solid masonry of the south wall. C. W. W.

Writing to Mr. Spiers on the 30th ult., Sir Charles Wilson says:—I find from my diary that on the 23rd December I took the plan into the Mosque, after it had been plotted, and compared it on the ground, correcting a few inaccuracies. The same afternoon a heavy storm of sleet and snow commenced, which lasted, almost without intermission, till the 28th, when we left Damascus. This, probably, accounts for our not completing the plan with the outside wall, minarets, &c.; but I think we were particularly asked to make a plan of the interior, which was then little known.

From R. Phené Spiers [*F.*], F.S.A.—

Sir Charles Wilson, in the letter published p. 65, states that the only point on which he is unable to agree with me is "the extent to which Al Walid destroyed the church." He does not think that "he made a clean sweep of everything, re-using the material," but believes "many of the columns in the western half were, before the fire (of 1893), in their original position." Sir Charles Wilson evidently arrived at this conclusion when measuring the Mosque in 1865, because he says in his notes, "A large number of the original columns are apparently still *in situ*," this being "specially the case in the western half of the Mosque, which is by far the best preserved." May I venture, however, to express the opinion that the irregularity in the size and nature of the columns and capitals in the eastern half is due to restoration after the fire of 1069? It is probable that in the latter half of the eleventh century there was no longer that wealth of ancient Roman remains in the city of which the Khalif al Walid was able to avail himself in the commencement of the eighth century; hence columns of smaller size and a variety of capitals. In order to decide this question it is necessary to study the general plan of the Mosque, and if Sir Charles Wilson is willing to concede the point that Al Walid built the transept on a central axis between the south-east and south-west more ancient structures, it almost follows that the eleven equidistant bays on each side must have been set out afresh. That is, however, not the only argument in favour of the entire rebuilding. The style of these arcades, the dosserets, and the open arcades above are late rather than early Byzantine. The earliest dosserets, as distinguished from moulded architrave blocks, are found in St. Demetrius at Thessalonica, attributed by Fergusson to the commencement of the sixth century, and the method of obtaining greater height by a wall raised above the main arcades and pierced with arches or small arcades is the same as that adopted at a later date in Cordova. The dosserets in St. Demetrius are all sculptured with crosses, and the traces of similar decoration, but obliterated, might have been noted on the dosserets of the western half had they formed part of the original church. These, however, are questions of opinion. There is no doubt that the transcript of his original notes, which Sir Charles Wilson has been kind enough to forward for publication, are of the greatest possible value, seeing that of the forty granite columns in the Mosque thirty were thrown down in the late fire, and the materials may now be seen, as Dr. Masterman informs me, lying broken up on the main roads, and being used for their repair.

LEGAL.

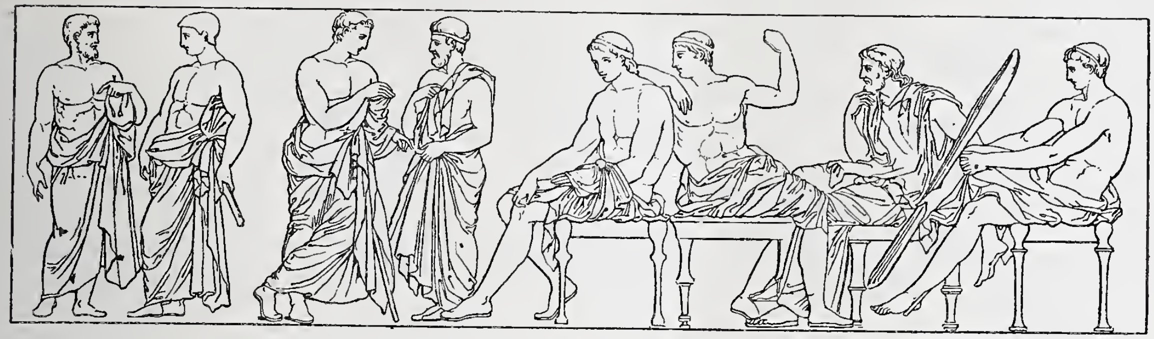
Architects' Charges—Ownership of Drawings.

SKIPWORTH *v.* SKRINE.

This case came recently before his Honour Judge Lumley Smith, Q.C., in the Westminster County Court. The plaintiff, an architect, sued the Rector of Leadenham, Lincolnshire, for £32 14*s.* for visiting the church and making designs in response to a letter from the rector. The plaintiff prepared a drawing of a rood screen, also one of an east end, one of a pavement, and one of panelling. He estimated the total cost at about £1,300. Ultimately, for various reasons, the plaintiff's designs were not carried out. The defendant was willing to pay the amount claimed if the drawings were handed over to him, but the plaintiff was unwilling to part with them. At the hearing both parties, after some discussion, preferred that the plaintiff's remuneration should be assessed on the basis that the plaintiff would retain the drawings and the defendant make no claim to them. The plaintiff said that the work was special, and not subject to any scale applicable to ordinary architectural work, and he based his claim on the time occupied, which he estimated at fourteen days. His Honour, in delivering judgment, said that two of the drawings contained much detail which doubtless took time, but it was not clear that so much was required at that stage. In writing to the defendant's solicitor the plaintiff said it was only necessary to make diagram drawings sufficient to illustrate the nature of the design, and that such elaborate drawings as his were made on the supposition that he would retain them, and that the drawing of the chancel screen was to be exhibited in the church. In the absence of any agreement between the parties, his Honour gave judgment for the plaintiff for £20, including travelling expenses, the defendant abandoning all claim to the drawings.

RANSOME *v.* DE CASTRO.

In this case, heard in the same Court, his Honour said that the plaintiff, an architect, made plans and obtained tenders for two cottages which the defendant was willing to erect at a cost not exceeding £400. The tenders exceeded that sum, and the cottages were not built. The plaintiff received from the defendant the 3 per cent. on the lowest tender, which was the ordinary remuneration for what he had done. Some five years afterwards the plaintiff, at the defendant's request, obtained a fresh tender, without result. He also made some slight alterations in the plans. He then suggested to the defendant that, for the purposes of economy, a builder might be trusted to do the work under the control of the district surveyor without the supervision of an architect, in which case he would charge the builder two guineas for a set of tracings. This was not agreed to at the time; but eventually a builder volunteered to the defendant to do them for £400. The defendant applied to the plaintiff for the plans and specifications, and the plaintiff supplied copies, but sent with them a claim for two guineas. The defendant replied that as he had paid the plaintiff for making the drawings they were his property, and though he was willing to accept copies instead of the original drawings he would not pay for them. When the plaintiff commenced his action he limited his claim by his particulars to two guineas for making alterations in the drawings and specifications; but those alterations were unsubstantial, and there was no promise, either express or implied, on the part of the defendant to pay anything for them. The claim therefore failed.



ADDRESS TO STUDENTS. Delivered by the President, Professor Aitchison, A.R.A. at the Sixth General Meeting, Monday, 18th January 1897.

Students, Ladies, and Gentlemen,—

It has been the custom for the President to say a few words to the students on these occasions. You had from Mr. Macvicar Anderson, when he was President, some admirable remarks on planning, besides those on professional brotherhood; and most excellent advice from my learned predecessor Mr. Penrose, who found out for us and the world the optical refinements of Greek Architecture. He was trained in the reverent study of the antique from the actual remains of Greek and Roman structures, and is not less learned in the monuments of the middle Italian Renaissance, which he measured, and we have heard from him that Palladio alone of the Renaissance architects had learned the secret of the grand Roman style.

However much I may be inferior to my predecessors in weight and eloquence, I cannot yield to them in my ardent desire for the improvement of our English architecture, nor for giving to the students all the advice that I can impart in a short speech, for in them we see the future architects of our country.

No teaching will give genius or parts to learners; but I think I may say, without fear of contradiction, that untiring diligence is an absolutely necessary qualification; and this has been so evident to those who possess genius, that Buffon defined it "as the art of taking trouble," which we all know it is not; but diligence is so absolutely necessary for the development of genius, that it is excusable to confuse the necessary servant with the master.

I would call your attention to the works of Lord Leighton now being exhibited at the Royal Academy, and also to the large collection of his studies at the Gallery of Fine Art in Bond Street. The studies there are but a portion of the innumerable ones he made, and you will see by these that the exquisite perfection he attained in his finished pictures and statuary resulted from the most careful and accurate study of Nature: that there is not a form, an extremity, or a piece of drapery that was not perfectly studied before it was painted or modelled.

Necessary as indefatigable diligence is, the longest life is only too short for the attainment of even a competent knowledge in the master art we profess, which embraces so many various arts, and requires a knowledge so wide and so various, and qualities of mind that are rarely found in one person. It is a great saving of time to have a map, a compass, and a knowledge of the streams and currents, of the reefs and sandbanks, before we embark; not only to prevent shipwreck, but also to avoid great deviation from our course; so that there may be no waste of labour, however strong and indefatigable we may be. Some of the wiseacres of the last century, during a dearth, employed labourers to dig holes in the ground and fill them up again, and although this kept the labourers' muscles in training and prevented the loss of habits of diligence, the crop that should have resulted and rewarded the labourers for their exertions was non-existent. Nothing is more disheartening than useless labour. Many of my own early years were wasted in inking-in drawings, and I could not help wishing at the time that I had been a shoemaker, for stitching shoes could not be more irksome, and would have prevented some people from getting their feet wet or worn. The creation of something useful would have mentally compensated me for the irksome labour, while no one was benefited by my inking-in drawings.

The wisest saying of the Delphic oracle was, "Know thyself," and it can be as usefully applied to themselves by those who study architecture, as by others in the various exigencies of human life. It is obvious that if one knows oneself one can best choose that part of architecture most fitted to one's aptitudes, and one can map out those parts that are essential to be learnt; by this means not only is much useless labour saved, but that worst of all shipwrecks is averted, the having embraced a profession that is not congenial, and for which one finds one's capacities are not fitted, and this, too, when it seems too late to throw up the profession. I recollect hearing of a pupil of Laing's—the Laing who built the Custom House—who found architecture so uncongenial that he embraced the law, and became a Vice-Chancellor, as Alfieri the barrister became a celebrated architect. It is within the knowledge of most men that many of those who have become distinguished have changed their profession; but these men have mostly had a natural aptitude for the subject they eventually embraced and excelled in.

To those unfortunates who have embraced architecture but have no aptitude for it—nor, as far as they know, for anything else—I can only recommend the behaviour of Scotchmen under such circumstances. I think I may say that Scotchmen are the only people of the United Kingdom who have a good education, and by this I mean a moral education. Each man who finds himself in this position says to himself, "This is my only chance in life; I have no natural ability for it, but I must try by application and striving in season and out of season to make up for my lack of aptitude"; and you rarely find that they fail, whatever walk of life they have embraced, for they mostly gain a good position.

Youth is naturally enthusiastic and ambitious, and would fain know everything connected with its occupation. Most students have read Bacon's programme of mastering all human knowledge: but we are not all Bacons, and had Bacon lived now, when the memory wanted for one small branch of science is greater than that given to most men, he would never have set out on so impossible a quest. A student, for example, has to see what a column or stanchion will safely bear, and so he wants to know the laws of flexure, and finds himself referred to Poisson; he gets Poisson's book, but finds that to understand it he must master the differential calculus; he gets a treatise on that, but finds it would take him his whole life, if he could even learn it then; yet as the multiplication table is to arithmetic, so is the differential calculus to the higher branches of mathematics; he therefore comes to the old conclusion "that everybody cannot do everything."

It is, perhaps, a laudable ambition to take one of the great architectural geniuses as a pattern; but you should have common sense enough to calmly and dispassionately review your own powers and capacities before entering on a serious attempt at imitating his achievements. There is only one genius in several millions of people who is blessed with the capacities of the great architects, who has the making of a Brunellesco, an Alberti, a Peruzzi, a Bramante, a Leonardo, or a Wren; and I only wish more of those who find themselves incompetent would abandon the profession. The average capacity of mankind is not great, and yet each one wishes to be the bright particular star of the world. Each unit of mankind cannot endure the idea that his capacity is not equal to that of the greatest genius; but he will admit that he is deficient in industry, and in that judgment which guides a man to concentrate himself on the principal aim of his life. This shows us one of the weaknesses of humanity, to be ashamed of admitting that which is a pure accident, over which we have no control; and to admit, without blushing, our neglect of those things that are in our power. It is the fashion to encourage the belief that all men are born with equal capacities, as it is to suppose that every epoch is equal in mental and moral power, and that the difference depends on teaching; as if cutting and polishing a flint stone would turn it into a diamond. I recollect Roebuck talking this sort of nonsense at Sheffield, and after pointing out what John Stuart Mill could do at thirteen years of age, who had then mastered Greek, Latin, and mathematics, he said: "But if John Mill could do what he described, why may not John Brown do as much, or nearly as much?"

The subjects that seem to me of the utmost importance are—first, the recognition by students and their teachers that architecture is a structural art, and that until this is realised and acted on, no great improvement is likely to take place. All the materials we use have weight, and in their ultimate position have size too, and in the positions they are placed have, as well as downright pressure, cross and diagonal strains. All these strains occur in almost every building, and must balance one another, or else the building becomes deformed or ruined, or tumbles down. The theory of the strains that produce equilibrium is called statics. The architect with the keenest observation, the strongest memory, and the greatest experience is a mere child, compared with one who is a master of statics and the strength of materials. Secondly, we all admit that without proportion buildings and their parts are unsightly, and we endeavour to train the eye to good proportions by studying classical buildings; their proportions, however, mainly give the statical results gained by experience at the time the buildings were erected; if these studies are pursued too long they are apt to make us fall in love with a state of knowledge inferior to that which we now possess.

That friend of our youth, Mr. Ruskin, partially enlightened us on this subject, by pointing out the infinite variety of proportions in Nature, most of which we find agreeable to the eye; and we now know that what may be called the fundamental proportions depend on the weight to be carried, the strength of the material, and its height and size. Statics allow us to go further, for, knowing the strains to be borne, and where they come, and the strength and peculiarities of the material, we may mould it into various forms, either by cutting away useless parts, or by adding to its bulk in certain directions. By statics we know where there is a change of function, and where various strains are concentrated, and these parts call for some expression, and the only way of expressing them architecturally is by moulding.

The proper arrangement of each chamber in a building for the duties it has to perform, the collocation of the different chambers, and the access to them by means of halls or passages without waste of room, is commonly denoted by the word "planning," and in reality planning includes much more, as, for instance, their proper lighting, aëration, ventilation, and warming; in fact, the enabling us to make the different portions fulfil their ends is the foundation of all good architecture. But man wants more than this; he wants not only certain parts to be more striking than others, but to make the exterior tell the use of the building and evoke the emotions proper to its use. All we have to deal with outside are walls and roofs, but we may want porticoes and porches, towers, lanterns, spires, and domes, for certain uses and under certain circumstances. Inside we have much the same elements, but we have as well floors, ceilings, and staircases, and although we always want floors to be flat, there are circumstances where steps are required to give elevation and dignity to certain parts, and there are also certain shapes which add beauty or dignity to the room or building; and if the ceiling is vaulted or domed we may want it made architecturally striking or beautiful.

One point is usually missed in speaking of architecture—the skill in combining the junctions between forms of diverse or opposed shapes, and of marking the different changes of function where they occur, or of marking the concentration of strains. These, as I mentioned before, are accomplished by moulding, and these mouldings are to attract attention by giving varieties of light and shade, and the mouldings must have a logical sequence in their forms. The Greeks were the first and the greatest masters of mouldings, which were, of course, shaped to be played on by brilliant sunshine and in a clear air. The Roman mouldings were only badly designed Greek ones, with infinitely less variation. The second masters of mouldings were the Gothic architects, who designed them for the misty climates and feeble sunshine of the countries they lived in. The Gothic architects were as logical as the Greeks, though destitute of their refined artistic sensibilities; and since then the study of profiling has been abandoned.

I say nothing of sculpture, in which I include naturalistic as well as vegetable and animal forms, for this is another art; but it must be exercised with due regard to the architecture, and must neither be incongruous with it, nor destroy the scale of the part, the chamber, or the building. You cannot expect sculpture from architects, as it takes the life study of an artist; and architecture alone may be said to embrace the life studies of many men, men of science, men of ingenuity, and men of art. When, however, the architect is so transcendent a genius that he can master his own art and that of another artist, he excites our wonder and our admiration; but to be a bad architect and an execrable sculptor too is not a combination to be admired, and still less to be proud of. It merely entitles the possessor to Martial's compliment, who called the amateur who did so many things nicely, a great meddler.

There are one or two more points that I must mention, and perhaps the influence of the age is the most important: this in one direction is what we call the taste of the nation, and it inevitably modifies the individual taste of the artist. The old proverb says, "The mind of man is greedy of novelty," and novelty in itself has, no doubt, a certain charm: but it should only be that difference from what has gone before, which must inevitably follow from those thousands of things, circumstances, and temperaments that distinguish one age from another. It shows us, too, how ridiculous antiquarianism is when it takes the place of architecture. We are not Greeks, Romans, or Byzantines: our age is not Romanesque, nor Gothic, nor Renaissance; and if the architecture of the day is to charm the age it must discover and embody the desires of the age. The paraphrasing of buildings in deceased styles only charms us in so far as our civilisation approaches that of the time of the building paraphrased, and the new building wants novelty too. We naturally do not admire Gothic paraphrases, as the desires of those times are so far removed from our own inclinations. The Gothic architect's passion for geometry is very far from being ours.

The nation unfortunately has lost all desire for art, which is the embodiment of ideas, by which alone the bulk of the people can be taught. Now a little semi-scientific jargon, embodied in a newspaper paragraph or an Act of Parliament, is expected to fulfil the function of art, but any person of observation can see it does not. Art—which should proclaim to the most uneducated the inestimable advantages of being free, by having a voice in the election of its representatives, by belonging to a great nation with colonies, by free teaching, by free surgery and doctoring, by free lunatic asylums, by the free housing, clothing, and feeding of aged paupers, by free libraries, by public parks, gardens, and baths, by free museums and free picture galleries—knows nothing of these advantages, because they are not brought to one's eyes by art; in fact, so far is this from being the case, that all these benefits, if not unknown, are unnoticed, because art is suppressed in all the buildings which minister to the people's wants. Such buildings should be of the most impressive appearance, and adorned with sculpture, expressive of their use. Splendid tombs and monuments in public places should perpetuate the memory of the great warriors and statesmen, the great inventors and industrial leaders, the great poets, writers, musical composers, painters, sculptors, and architects, whose works will make the nation live in the memory of the world when its greatness and glory have departed.

Architects can but slightly modify the desires of an age, as there are so many thousand things, conditions, and influences that combine to mould public taste. All they can do is to have the attainable knowledge and skill required for their art, and if invention in architecture is extinct we must try to recreate it. I hope it is not extinct; but if it be, we still have the mountains, rocks, and peaks, the caverns and grottoes, the woods, the trees, and the plains, the rivers and seas, the clouds and the heavens, to stimulate us to embody the lessons we can learn from these natural effects, not to speak of the lessons we can learn from the past architectures of the world. I cannot help thinking that if the born architect should arise and be single-eyed in his devotion to this grand art, we might hope to see it again flourishing as in the grand epochs of the past. Antiquarianism is not content with gnawing out the vitals of architecture, but is destroying the belief that it is still alive. Another of the points that want attending to is the study of the means employed by the great architects of the world to evoke the emotions proper to the use of these buildings, and particularly to those dedicated to the adoration of the Almighty.

Students are naturally apt to seize upon features that they admire, and use them in the most incongruous way, as if the adornment of a temple or a palace were appropriate to a labourer's cottage, a coal store, or to a tailor's shop, whose owner makes the human form divine, ludicrous and ignoble. Elegant simplicity of appearance should be the architect's aim for most of his buildings, as his aim should be to produce horror and repulsion in a prison.

Our great object now is to be sure that we have done our best to learn all that we ought to learn. How delightful would it be if we were as sure of our progress as were the Gothic architects, and instead of being as careful of every scrap left by a semi-barbarous age, as if it had come from heaven and were sacred, we could use with a light heart a good stone, as they did, for our own work, and build in their worked part which we have surpassed. I may say this was not confined to Gothic days; the Greeks used the sculpture they had surpassed for filling in holes and trenches, and Mr. Purdon Clarke showed me a Saracen wood block that had once formed a door-head in a destroyed mosque, the back of which had been used for the work of the day, while the carved part, worked in a former age, had been built in.

If the Institute wants to start this work of fundamental improvement, it will see that its examinations are not confined to students alone, but are to be passed by every one who joins it, and that everything that is not architectural is excluded from the examinations, and that those things alone are included that every architect ought to know to be worthy of the name. No one can say that the arts of surgery and medicine have not enormously advanced since the surgeons and doctors had to pass a strict examination in the subjects of these arts. No sane person can suppose that architecture would not rapidly progress if architects were required to show that their knowledge rested on a solid foundation of science and æsthetics.

REVIEW OF THE DESIGNS AND DRAWINGS SUBMITTED FOR PRIZES AND STUDENTSHIPS 1897. By W. M. Fawcett, M.A., *Vice-President.*

It was with no small surprise that I was asked by the Council to speak to you about the drawings submitted in competition for the various prizes offered by the Institute. In some respects I must differ from the Council as to my being a very fit person for the office, as I have never had any experience in former years. Though I may have seen the drawings occasionally, I have never taken any part in awarding prizes, so that I can offer no criticism on the comparative excellence of those I have seen and those of former years. So long, however, as I give you fair and just criticism on those now submitted, we can, perhaps, all allow those of past years for once to remain in oblivion.

The Council in awarding prizes do not enter into the question of the good qualities or faults of any beyond the simple award of prizes to those they think to be the best. This award is almost necessarily given without assigning reasons, and therefore it is found better for some other hand to give praise or blame as he may think either deserved.

There are many drawings here which show great care and much labour, and I trust that wherever I may find fault, as I must do where I see fault, the stricture will be taken in the spirit in which I give it, and that my desire to make the work the more full of profit to the worker may result in the more careful consideration of the principles of construction, arrangement, or design when future attempts are made, whether they be merely in running for a prize, or in the harder race of life, when the work has to be put to the more serious test of being carried out in actual bricks and mortar.

Without further preface, I will now make my review of the drawings submitted.

The chief prize for which competition is asked is undoubtedly the Soane Medallion, and the 100*l.* which accompanies it. Soane was chiefly interested in classic work, and I believe that the Council have nearly always been particular to give subjects which could well be worked out on classic lines. The "Market Hall," given this time, has met with but little classic response; but as no rule is laid down on the subject, and students are left to their own feelings, it is not surprising that the numerous examples of quaint old Mediæval and later work have brought ideas to the mind, and dispelled the visions of really early classic work.

In the design "Li-Lu" we have an open market on the ground floor, with assembly-room above. This is the arrangement that has found favour almost without exception. The competitor here has put a house for the hall-keeper partly below ground—which is certainly not an ideal arrangement, even though under stern necessity such things have to be done sometimes. In design the clock tower is poor, and the turrets are non-effective; but there is a fair mass which ought to come out well in execution.

The design under motto "L'Eléphant d'Argent" has a good feature in the raised platform with four steps, and the inclined roadways will take light carts. The staircase implies that the open market-place has more room than is wanted for the size of the town. The entrance to the assembly-room is close to the platform, which is a fatal arrangement so far as filling the room is concerned. The elevation is very simple, and made under the evident intention of having a mass of plane surface to give greater value to the band of figures in relief. The idea is carried rather far. The spirited drawing brings them out, but the figures might hardly hold their own in execution.

In the design "Artifex" the assembly-room finds no favour; but there are two markets—an arrangement quite as legitimate as the more usual one: but sanitary arrangements are forgotten altogether. The elevations have a certain delicacy, but the towers crowd up the end elevations. The flèche is too fussy to be happy, and the section shows no construction for it.

It may be well to mention that the competitor under the motto "'Neath Southern Skies" is an Australian, who, I am told, has lived all his life in Australia, and thus has had no advantages in the way of seeing ancient buildings and feeling the poetry with which they abound. The design submitted is very bold and has great merit. It is certainly hard to say what style it is supposed to be in, but that is a feature one would naturally expect under the circumstances, and I trust we are not so tied to precedent that we need condemn it as a fault. The bold arches on the ground floor are certainly effective. The corbelled corridor wall with its coving is somewhat heavy, and I fear the provincial market town that adopts the design will feel the increased rates for some time.

The design "Labor ipse Voluptas" has a well-arranged plan. The principal staircase is the chief blot, as it is far too small and steep for such a room as is provided. The piers between the windows have all they can do to resist the thrust of the open timber roof. The elevations are quiet and have good feeling, and the design gives promise that the author may be able to execute really good work.

The device "Shell and Ribbon" is given to a very Dutch design. Everything seems sacrificed to a turret far out of proportion. When one sees four posts in the middle of the assembly-room, with numerous braces, all big enough to be very inconvenient, but hardly sufficient to carry the turret, one feels that it is a design for a turret with a market hall attached to it, and the author evidently thinks that a turret with its clock and bell requires but little sanitary arrangement. In spite of all these faults there is a very good feeling in some parts of the design.

In the design with motto "Russet" the plan is well arranged, and details have been carefully thought out. The elevation has considerable dignity, and it is quiet and simple, but the heavy key-stones and projecting voussoirs to the windows, &c., are somewhat overdone. Taken as a whole, it shows that the author has considerable power, which I hope the Studentship will help to enable him to bring to good effect.

"Charley's Aunt" is, I suppose, a joke in design as well as in motto.

The design "Oxonian" has managed a market clear of columns, and his plans are well thought out. He has probably altered as he went on, as section and plan do not quite agree. He could not manage the window shown in section as the plan is now arranged, and the door is needed. The piers between the windows are not too strong for the open timber roof. The elevations are simple and effective, but the entasis of the pilasters is a little overdone.

"Briton" makes a variety in treatment, as he devotes his ground floor to shops, none of which have any retiring room or other conveniences, and he places his market above. There are many disadvantages in such an arrangement, which a lift for heavy goods does not by any means remove. There is some thought in his elevations, which are decidedly severe.

The design with motto "North Wind" has many good points. The elevations are perhaps too much cut up, but the whole is fairly grouped. It cannot compare though, as a whole, with several others.

The design "Bon Espoir" has a well-thought-out plan in many respects. The half-timber walling has good effect, but is drawn without fully thinking of sizes of timber. The wall in plan is evidently solid brick or stone, so the half-timber is somewhat of a sham. The design, though, in many points shows that it has had considerable thought.

The design "Bumble" is somewhat overweighted by the towers at the angles. The two small staircases to the upper room can hardly be considered of the same value as one double the size of either. All dignity of approach is lost, and there is double attendance required, not to mention other inconveniences. However desirable a second entrance may be, there should at least be one *good* one.

The design "St. Clement's" is well thought out, and has many good points. It is the only one which has carried out a really dignified entrance to the hall on the first floor. The details of plan are well thought out, and the elevations are simple and well designed, and have a very pleasing quaintness about them. I trust he will venture to try his fortune another year.

THE TITE PRIZE.

The Tite Prize has this year drawn but few competitors. The two who have sent in cannot be said to have shown all the care that is necessary. The design bearing the device of a circle can hardly be called a villa: it is a large mansion; and the designer of "Gondola" has not thought it necessary to provide for some of the main essentials of every house.

THE GRISSELL COMPETITION.

The Grissell Competition has drawn seven designs. The subject is a bay of a church. It is a subject which requires any one who attempts it really to have made a study from many churches before he can hope to design anything of value, and this can hardly be said to be the case with either "Equilibrium" or "Zeal." "Goth" has more good points, but it is too florid, and the construction is weak. The design with "Heart and Shield" device is decidedly original, and is very delicately drawn. Personally, I should have preferred it if set out in a bolder manner. It would undoubtedly make a very striking building. The side shrine chapels are perhaps a little low, but they are well sheltered, so that devotion need be but little disturbed. The foliage to capitals is original and somewhat eccentric. The building would be a very striking one if of sufficient length, which we may presume it would be.

There is great merit in the design E.F. (within circle), but it has the fault that the flying-buttress is placed too high to be of full value. There is a great deal of very careful work. The same may also be said for "Pheon," which is also well worked out, and in an earlier style. The flying-buttress has the same fault, but there is great merit in both these sets of drawings. It is hard to say much more about the remaining design "Middle Ages." It is perhaps hardly equal to the last two, but has so much merit, and so much careful thought, that it is invidious to say anything that might be interpreted into mere fault-finding.

All the Prizes and Studentships which I have spoken of above are for original design, and although I may have let my criticisms, perhaps, fall a little into fault-finding, I cannot pass to other work without supplementing these detailed remarks with the more general statement of my pleasure at seeing such a vast amount of really good work submitted for the prizes. There is a great deal of good design well thought out and well expressed. It is my duty to turn to another class of work, namely, that showing the study of old work. I need not dilate here on the necessity for this study—we are all agreed on it.

OWEN JONES STUDENTSHIP.

The Owen Jones Studentship, founded particularly for the study of "Ornament and Coloured Decoration," is, perhaps, the most advanced of these. Only two sets of work have been submitted, and both these show an amount of study and application which well deserve the encouragement of a prize.

Mr. Henderson has been fortunate enough to carry off the Studentship. His sketches of detailed ornament, as well as those of more general interior work, show great care. He has been to the sunny south for his examples, and has made good use of his time. The prize will, I hope, enable him to strengthen himself in the work of colour, in which he seems to delight. Mr. Griffith has also sent in good work. Much of this is home work, and students should not forget the treasures of colour that are to be found throughout our own native land. We are all much behind our fathers in our knowledge of power in the application of colour, and home examples are more likely to prove of real value for use in our own work. It is a matter on which we must all be glad to congratulate him, that the Council have seen their way to award him the Aldwinckle Prize. Mr. Griffith will now have good opportunity of comparing the tones of colour under the brilliant skies of Spain with those under the quiet grey skies we commonly find at home.

MEASURED DRAWINGS COMPETITION.

The competition for the prize for measured drawings has produced three sets of drawings. Two of these competitors have taken St. Mary-le-Strand, and the third Melrose Abbey. The first two have chosen a subject that appeals to nearly every one as one of the most beautiful of the churches in London, and both students will have gained a good deal by their work, though they have not gained the prize. The drawing with motto "St. Mary" I should take to be the more accurate of the two, but both are well drawn, not only with care and delicacy, but also with great spirit. The Melrose Abbey is a fine piece of work, and the larger scale drawing of the south transept is done with a strength of line and vigour of execution that show the energy of the draughtsman. The larger scale foliage is also given with remarkable vigour. If I may make a deprecatory remark on such a set of drawings, it is with regard to a not uncommon fault in the smaller scale drawings of young draughtsmen. In setting out tracery, &c., the fact has not been calculated that the thickness of the outline counts to the tracery while all is clear, but it counts to the shaded part when the spaces are darkened, so that the tracery is made to appear thinner and weaker than it is. This, however, is a minor fault, and need not cause much misapprehension; I mention it as one on which young men are often tripped up on setting out work of this kind.

PUGIN STUDENTSHIP.

There are eight sets of very good drawings for this prize, and it is somewhat hard to make invidious comparisons among them.

Mr. Dobson has made careful studies at Lincoln and Beverley and Ely, besides minor sketches in other places. Mr. Hoare has spent more time abroad, but has wandered over England from Hexham to Canterbury, and his work will leave many pleasant impressions on his mind; but he is more sketchy than the last named. Mr. Sheppard has worked chiefly at Worcester, and his work takes more of the careful study of measured work. His pencil is not nearly so free; but freedom of hand is only gained by practice. Mr. Swan's work is of great merit. He has not only some good measured work at Ypres and Ghent, which are particularly worthy of attention, but shows a fair facility with his pencil. Mr. Collins's work is also remarkably good. His examples are chiefly taken from the South of England, and his sketches of churches are full of vigour.

Mr. De Gruchy has worked chiefly in Yorkshire—at Beverley, Howden, Hedon, and York—and he has also ventured south to St. Albans. The measured work is decidedly good. His sketches also show a great delicacy of touch; but they show signs of not having been done in the field, but touched up when he got home, or perhaps drawn out afresh. The effect is that of having drawn more than could really be seen, and it is work of the class that caused the remark (I believe of Mr. Ruskin) that architects could not draw architecture, as they invariably put in detail they know to be there, but which could not be clear to the non-professional eye. The St. Albans work has been a work certainly of labour, and I trust of love also.

Mr. Brooks has worked chiefly on sketches, and has given us some fairly good drawing, but his powers will develop with more practice. Mr. Haywood's set of drawings is really charming. The care in setting out measured work is only equalled by the power of delineating it. There is little of field sketching, but it is the real accuracy of work which is the most necessary thing to study. His power of drawing is shown in his figure work. May he not only enjoy but profit by his well earned Studentship!

In looking over the large amount of work which has been undertaken for the chance of the prizes, most of which involve an undertaking to prosecute studies still further, one cannot help feeling for the disappointment of the many who receive here nothing but a word or two of praise, or perhaps of blame. To them there may be the feeling of inquiry as to what good they have got for their labours. I trust that they have had sufficient interest in their work not to feel depressed because others have taken the prizes. Though I do not consider myself an old man, I am old enough to have noticed that the men who succeed best in their professions, whether lawyers, doctors, chemists, or men of other classes of science or literature, are those who take a real pleasure in their work—who seem never to find it irksome, but seem often to do it for the fascination they find in it. I feel sure it is more so with those who take up art as a profession, whether it be painting, sculpture, or the branch we are practising ourselves. The thought and study which you have given to your work has, I feel sure, been of great benefit to you; and I hope it has been a pleasure also, and that you can all join one of your brother competitors in his motto, and say from your heart, "Labor ipse Voluptas."

9, Conduit Street, London, W., *21st January* 1897.

CHRONICLE.

PRIZES AND STUDENTSHIPS 1897.

The Deed of Award, read by the President at the Business Meeting, Monday, 11th January.

Gentlemen,—Pursuant to the terms of By-law 66, that the Council shall, by a Deed or Writing under the Common Seal, award the Prizes and Studentships of the year, and announce such awards at the next General Meeting after the adjudication, the Council have the honour to state that they have examined the several works submitted for the two Silver Medals of the Royal Institute, the Soane Medallion, the Pugin and Owen Jones Studentships, the Godwin Bursary, the Tite Prize, the Grissell Medal, and the Aldwinckle Studentship.

The Royal Institute Silver Medals.

(i.) *The Essay Medal and £26. 5s.*

Five Essays, on the subject of "The True Value of Tradition and Precedent in Architectural Design," were received for the Silver Medal, under the following mottoes:—

1. "Toujours Esperez."
2. Nestor.
3. Federation.
4. The Letter Killeth, but the Spirit Giveth Life.
5. Things New and Old.

The Council regret that they are unable to award the Institute Silver Medal, but they have voted the sum of Fifteen Guineas to the author[*] of the Essay bearing the motto "Things New and Old," as being the best of those submitted; and a Certificate of Honourable Mention to the author[†] of the Essay bearing the motto "Toujours Esperez."

(ii.) *The Measured Drawings Medal and* £10. 10s.

Three sets of drawings were sent in, of the several buildings enumerated and under motto or device, as follows:—

1. Device of a Fleur-de-Lys within circle:—Melrose Abbey.
2. "St. Mary":—St. Mary-le-Strand Church.
3. Sub Spe:—St. Mary-le-Strand Church.

The Council have awarded the Silver Medal and Ten Guineas to the delineator[*] of Melrose Abbey, a set of drawings submitted under the device of a Fleur-de-Lys within circle.

The Travelling Studentships.

(i.) *The Soane Medallion and* £100.

Fourteen designs for a Provincial Market Hall were submitted under the following mottoes, &c.:—

1. Labor ipse Voluptas.
2. North Wind.
3. L'Éléphant d'Argent.
4. "Li-Lu."
5. Bon Espoir.
6. 'Neath Southern Skies.
7. Briton.
8. St. Clement's.
9. Russet.
10. Bumble.
11. Shell and Ribbon.
12. Charley's Aunt.
13. Artifex.
14. Oxonian.

The Council have awarded the Medallion to the author[†] of the Design bearing the motto of "Russet," with the sum of One Hundred Pounds for architectural study abroad during a period of not less than six months, under the specified conditions. They have also awarded a Medal of Merit to the author[‡] of the Design bearing the motto "Labor ipse Voluptas"; and a Certificate of Honourable Mention to the author[§] of the Design bearing the motto "L'Éléphant d'Argent."

(ii.) *The Pugin Medal and* £40.

Eight applications were received for the Pugin Studentship from the following gentlemen:—

1. William Haywood (Birmingham).
2. Charles de Gruchy (London).
3. James Alfred Swan (Birmingham).
4. Thomas Denton Brooks (Doncaster).
5. Edward Barclay Hoare (London).
6. Edward George Collins (London).
7. Walter Ernest Dobson (London).
8. George Lewis Sheppard (Worcester).

The Council have awarded the Medal and (subject to the condition, among others, that the said candidate devote a tour of not less than eight weeks' duration in some part of the United Kingdom to the study of Mediæval Architecture) a sum of Forty Pounds to Mr. William Haywood, Medals of Merit to Messrs. Charles de Gruchy and James Alfred Swan, and a Certificate of Honourable Mention to Mr. Walter Ernest Dobson.

(iii.) *The Owen Jones Studentship and* £50.

Two applications were received for the Owen Jones Studentship from the following gentlemen:

1. Arthur E. Henderson.
2. Arthur T. Griffith.

The Council have awarded the Certificate and (subject to the condition, among others, that the said candidate devote a tour of not less than eight weeks' duration to the improvement and cultivation of his knowledge of colour as a means of architectural expression) a sum of Fifty Pounds to Mr. Arthur Edward Henderson.

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[*] Mr. John J. Cresswell [*A.*]. [†] Mr. George Cowan [*A.*].

[*] Mr. Frederick Julian Wass. [†] Mr. J. A. R. Inglis [*A.*]. [‡] Mr. J. A. Swan. [§] Mr. C. H. Holden.

(iv.) *The Godwin Medal and £40.*

Two applications were received for the Godwin Bursary from the following gentlemen:—

1. George B. Carvill.
2. Robert Stephen Ayling [*A.*]

The Council have awarded the Medal and (subject to the condition, among others, that the said candidate spend not less than five weeks in some part of Europe, other than Great Britain and Ireland, or America for the purpose of studying and reporting on works of modern architecture) the sum of Forty Pounds to Mr. R. Stephen Ayling [*A.*].

(v.) *The Tite Certificate and £30.*

Two Designs for an Italian Villa and Ornamental Garden were submitted under the following motto and device:—

1. Gondola.
2. Device (circle).

The Council have decided not to award the Prize.

PRIZE FOR DESIGN AND CONSTRUCTION.

The Grissell Medal and £10. 10s.

Seven designs for a Bay of a Church were submitted under the following mottoes, &c.:—

1. "Goth."
2. Pheon.
3. Middle Ages.
4. Zeal.
5. E.F. (in circle).
6. Equilibrium.
7. Heart and Shield.

The Council have awarded the Medal and Ten Guineas to the author * of the Design bearing the device Heart and Shield.

THE ALDWINCKLE STUDENTSHIP (£50).

The Council having decided to award the Studentship for the year 1897 to the person who, among all those submitting works for the Prizes and Studentships 1896–97, will in their opinion best carry out the donor's intentions (this Studentship being due to the munificence of Mr. T. W. Aldwinckle [*F.*]), have selected Mr. Arthur Troyte Griffith, provided necessarily that he fulfil the required conditions as to travel and study in Spain for a period of not less than eight weeks.

THE ASHPITEL PRIZE.

The number of persons who qualified for candidature as Associate at the June and November Examinations of the year 1896 was thirty-five; and under the terms and conditions of the Ashpitel Prize it is to be awarded to "such candidate in the Obligatory Architectural Examination" as shall have most highly distinguished himself in such Examinations held in the course of the year, and who is reported by the Board of Examiners (Architecture) as deserving such prize, which is a Prize of Books value Ten Guineas. The Council have, on the recommendation of the Board of Examiners (Architecture), awarded the Prize to Mr. Thomas Denton Brooks [*A.*], of Doncaster, who was registered as a *Probationer* on the 1st December 1890, a *Student* on the 27th March 1893, and who passed the Final Examination held June–July 1896.

THE ARTHUR CATES PRIZE.

A Prize of Books to the value of Ten Guineas, offered by Mr. Arthur Cates, ex-Chairman of the Board of Examiners, to the Student whose Testimonies of Study for admission to the Final Examination are considered by the Board to best merit the Prize, provided he pass the Examination for which the said Testimonies are submitted, has, on the recommendation of the Board of Examiners (Architecture), been awarded to Mr. Charles Samuel Frederick Palmer, of Sittingbourne, Kent.

TRAVELLING STUDENTS' WORKS 1895 AND 1896.

The Godwin Bursar 1895.—The Council have approved the Report of Mr. Albert William Cleaver [*A.*], B.A., who was awarded the Godwin Bursary in 1895. Mr. Cleaver visited the United States of America for the purpose of reporting upon the planning and construction of the Johns Hopkins Hospital, Baltimore.

The Godwin Bursar 1896.—The Council have provisionally approved the Report, for the completion of which an extension of time has been granted, of Mr. Alexander Nisbet Paterson [*A.*], who was awarded the Godwin Bursary in 1896. Mr. Paterson visited the United States of America to examine the planning, heating, ventilation, &c., of the modern domestic architecture there.

Tite Prizeman 1896.—The Council have approved the work of Mr. Henry Arthur Crouch [*A.*], who was awarded the Tite Prize in 1896. Mr. Crouch left England in April 1896, and returned in May, having visited Geneva, Pisa, Siena, Rome, Florence, Pistoia, Bologna, Venice, Padua, Verona, Milan, and Pavia.

Owen Jones Student 1896.—The Council have approved the Report and Drawings executed by Mr. Hubert Christian Corlette [*A.*], who was awarded the Owen Jones Studentship in 1896. Mr. Corlette left England in March 1896, and returned in May, having visited the South of France.

In witness whereof the Common Seal has been hereunto affixed this eleventh day of January 1897, at a meeting of the Council.—GEORGE AITCHISON, *President*; ALEXANDER GRAHAM, *Vice-President*; WM. EMERSON, *Hon. Secretary*; B. INGELOW, H. L. FLORENCE, EDW. A. GRUNING, *Members of Council*; HERBERT G. TAYLER, *Acting Secretary*.

THE ROYAL ACADEMY OF BELGIUM.

Honours for Professor Aitchison and Monsieur Garnier.

The President became the recipient of the most cordial congratulations of the Meeting of Monday, the 11th inst., on its being made known that he had been chosen by the Royal Academy of Belgium to fill one of the two vacancies in the ranks of *Associés* of the Architectural Section of the

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* Mr. S. K. Greenslade [*A.*].

Academy at Brussels. The gratifying news of the honour conferred upon the President had been conveyed to him in the following letter, dated Brussels, the 11th inst.:—

MONSIEUR,—J'ai l'honneur de vous faire savoir que la classe des Beaux-Arts, voulant vous témoigner l'estime qu'elle professe pour vos travaux, vous a élu, dans la séance de ce jour, Associé de l'Académie.

Tout en vous conférant cette distinction, la Compagnie espère vous voir prendre part à ses travaux, en lui communiquant ce qui pourrait l'intéresser dans la branche des arts que vous cultivez avec tant de supériorité.

Je suis heureux, Monsieur, d'être en cette circonstance l'organe et l'interprète de la Compagnie et de pouvoir vous offrir, avec mes félicitations, l'expression de mes sentiments les plus distingués.

Le Secrétaire perpétuel de l'Académie,
MARSHAL.

Monsieur GEORGE AITCHISON,
Président de l'Institut royal des architectes à Londres.

A similar distinction was accorded the same day to the gifted Frenchman who presides over the Society of French Architects at Paris, Monsieur Charles Garnier [*Hon. Corr. M.*]. A year ago the Council had the pleasure of felicitating M. Garnier on his elevation by the French Government to the dignity of *Grand Officier* of the Legion of Honour. Their congratulations are not less sincere on the present occasion, and the following letter, penned by the President on behalf of the Council, was despatched to M. Garnier on the evening of the day the intelligence arrived:—

11th January 1897.

DEAR MONSIEUR GARNIER,—Your brother architects in England have heard with pleasure of the new honour bestowed on you. It was only to-day that your election as a member of the Royal Academy of Belgium became known to the Council of the Royal Institute of British Architects. They have requested me to offer you their sincere and hearty congratulations at this new honour, conferred on you as the most representative living architect of the gifted nation to which you belong—a nation that has conferred so many benefits on mankind, and which may be called the inventor of Gothic. To speak of French architecture alone, it has benefited and charmed mankind by its beautiful and wondrous monuments during various epochs of its existence. We admire the edifices raised by Gaul during the time it was part of the Roman Empire, and since it has become an independent nation we find the world still admiring the masterpieces of the Romanesque period, and those of the Middle Ages, preserved for us in its cathedrals, churches, halls, and palaces. France has given the world monuments of its own early Renaissance, which are marked by that happy invention and grace for which it is, and always has been, so famous. It is peculiarly appropriate that you should have been chosen from among so many admirable compeers, as the artist who has enshrined his genius in that typical work of contemporary French art, the Opera House of Paris, and who has also charmed us by his pen in that book *A Travers les Arts*, which has not only interested and delighted us, but has furnished such frequent and happy quotations in our discourses. We all hope you may live long and happily—not only to enjoy the honours you have so justly earned, but also to charm the world with your own beautiful creations. You will, I hope, allow me also to add my own tribute to your genius, and my personal congratulations upon your new honour.

GEORGE AITCHISON,
President R.I.B.A.

Writing from Bordighera under date 17th January, Monsieur Garnier replies:—

MONSIEUR ET CHER PRÉSIDENT,—C'est seulement aujourd'hui que je reçois à Bordighera, où je suis cet hiver, la lettre que vous avez bien voulu m'adresser au nom de votre Institut et au vôtre; excusez-moi donc du petit retard de ma réponse.

Je suis profondément touché des termes que vous employez pour me féliciter de ma nomination de membre de l'Académie de Beaux-Arts de Belgique: mais je vous assure que, parmi les distinctions qui me sont survenues dans ma carrière, et qui toutes me sont précieuses, il en est une qui me tient le plus au cœur: c'est celle de membre correspondant de l'Institut Royal des Architectes britanniques.

C'était le *premier* de tous les honneurs qu'on voulait bien me décerner, aussi je garde pieusement le souvenir de cette nomination, et je profite de toutes les occasions pour redire à mes confrères anglais combien est grande la reconnaissance que je leur ai vouée.

Veuillez donc accepter pour eux et pour vous l'assurance de ma gratitude et de mon affection.

CHARLES GARNIER.

THE SIXTH GENERAL MEETING.

The late David Brandon [*F.*] and his Bequest to the Institute.

Prior to the business on the notice-paper for last Monday's Meeting being proceeded with, a very welcome piece of intelligence was communicated to the Meeting by Mr. Frederic Warren [*A.*] in the following terms:—

MR. PRESIDENT AND GENTLEMEN,—As an old pupil of the late David Brandon, and one of the executors named in his will, I have much pleasure in announcing to you that he has left a bequest of £1,000 to this Institute, in which he took so much interest in his life, and where he was so highly esteemed. The bequest, which is free of duty, is worded as follows:—"I give to the Royal Institute of British Architects £1,000 to be added to the funded property of the Institute, and the income arising therefrom to be applied at the discretion of the Council for the time being towards the advancement of architecture." Mr. Brandon had already given earnest of his great regard for the Institute by his munificence in the matter of the Institute Library Catalogue presented to members in 1889, the cost of compiling, printing, and publishing this work being entirely defrayed by him.

Mr. Warren then proceeded to give the following particulars of the life and work of Mr. Brandon, which he trusted might be considered worthy of record in the Institute JOURNAL:—

David Brandon was born on the 13th December 1813, and had consequently entered his eighty-fourth year at the time of his death on the 10th of the present month. In 1828, at the age of fifteen, he was articled for five years to Mr. George Smith, of Mercers' Hall. He became an architectural student in the Royal Academy in 1830; and in 1832, when he was nineteen, he was awarded the Silver Medal for the best drawings of the Bank of England. These drawings would be an interesting study to-day if they existed. I do not think they do, for I have never seen any of his Academy student work except a drawing from a cast shaded and finished in sepia, and that I fail to find now among his belongings. Mr. Brandon entered into partnership with Thomas Henry Wyatt in March 1838, which terminated by effluxion of time in 1851. There is a goodly list of works executed during the partnership, but the partners kept their work separate, and, as a gentleman said the other day, only "pooled the profits," and I am unable to discriminate accurately between them. In 1850 the Wilts County Lunatic Asylum and the Bucks County Lunatic Asylum were about to be erected; and when the partners separated, Mr. Wyatt took the Wilts and Mr. Brandon the Bucks Asylum, and carried them out. Mr. Brandon became an Associate of the Institute in 1839, and a Fellow in 1840, and was thus Senior Fellow at the time of his death. He was Vice-President in 1866–67, and again in 1882–85. He laid some store by the Bronze Medal awarded for services in connection with the first International Exhibition of 1851. He also received a Bronze Medal in connection with the Sydney National Exhibition of 1879.

In 1851 Mr. Brandon's independent career as an architect began, and his first work was Falconhurst Lodge, Cowden, near Edenbridge, Kent, for the late Hon. J. Chetwynd Talbot, the father of the present member for Oxford University. From this time his practice extended very rapidly, as the list of works which I have the pleasure of handing in will show.* I believe Mr. Brandon considered the Junior Carlton Club in Pall Mall as his *magnum opus*. The Eagle Life Office, on the south side of Pall Mall, is one of his best works; and the front of the Marlborough Club is worth notice, as well as the building at the bottom of St. Martin's Lane, now vacant, originally built for the Provident Savings Bank Institution. These are all at hand and speak for themselves; but his strength lay in the English gentleman's country house, of which Falconhurst Lodge above mentioned was the germ, as Hemsted House, Kent (Lord Cranbrook), Bayham Abbey, Sussex (for the Marquis of Camden), Lytchett Heath (Lord Eustace Cecil) in Dorsetshire, Sidbury (Sir Stephen Cave) in Devonshire, Colesbourne (Mr. J. H. Elwes) in Gloucestershire, and others too many to enumerate amply testify.

In the course of forty years' practice Mr. Brandon engaged the services of many able assistants—too many of whom, alas! have preceded him to the unknown land—but I hardly like to leave the subject without paying my tribute of admiration and esteem for Chas. Wm. Smith, now retired and living at Ambleside, who had a remarkable faculty for seizing and interpreting Mr. Brandon's ideas; and Mr. Charles J. Porter, who was the essence of Mr. Brandon's office for twenty-five years up to just the end of his active practice. An admirable draughtsman, intimately acquainted with Mr. Brandon's style and treatment, he could always be depended upon, while his knowledge of construction and capacity for working out details left nothing to be desired. Modest, courteous, and helpful, I feel it a privilege to call him a friend.

Mr. Brandon was buried at Kensal Green Cemetery on the 14th inst., near to the tomb of John Gibson. The funeral was attended by Mr. W. M. Fawcett, Mr. Emerson, Mr. Phenè Spiers, and Mr. John Slater on behalf of the Institute.

Testimonial to Mr. Arthur Cates.

Not the least interesting part of the proceedings at last Monday's Meeting was the pleasing function performed by Mr. Alfred Waterhouse, R.A., LL.D., in presenting a testimonial to Mr. Arthur Cates, his predecessor in the Chair of the Board of Examiners, in token of appreciation of Mr. Cates's long and indefatigable labours on behalf of the Institute Examinations. The testimonial, which was subscribed for by past and present members of the Board, took the form of a massive silver punch-bowl. The stand on which the bowl rested bore a silver shield, of exceedingly chaste design, on which was engraved the following inscription:—

TO
ARTHUR CATES, Esq.,
FOR 14 YEARS CHAIRMAN
OF THE BOARD OF EXAMINERS (ARCHITECTURE)
OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS,
FROM HIS COLLEAGUES, AS A MEMENTO
OF THEIR HIGH ESTEEM IN RECOGNITION
OF HIS UNFAILING ZEAL IN ORGANISING
AND SUCCESSFULLY WORKING THE EXAMINATIONS.
NOVEMBER 1896.

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* To be seen in the Library.

Mr. WATERHOUSE, in making the presentation, said:—

Mr. President and Gentlemen,—The work of the Institute is more than attracts our attention at these our fortnightly gatherings. That part of it which has to do with the Examinations is a serious and anxious undertaking, and though it is only of late years that it has assumed anything like its present dimensions, some idea of its importance may be gathered from the fact that 780 candidates have already passed the Examinations, while upwards of 1,000 more are at present engaged in preparing for the second or third of the three progressive steps into which our Examinations are now divided. Or, to put it another way, comparing the old Voluntary Examination with what followed, 43 gentlemen passed the Voluntary Examination between 1863–81; since 1882, when the Examination qualifying for Associateship became obligatory, 737 have passed. These do not include the 1,086 before alluded to, who are now preparing for their Intermediate or their Final Examination. These gentlemen are, of course, not exclusively from London. They are from all parts of the country—some from distant corners of the Empire. So that this work of the Institute, however great an ordeal for the students who submit to it, has an attraction about it as well. And when we consider that, independent of the intrinsic advantages appertaining to the Examinations themselves, it is only through these obligatory examinations that membership in the Institute can be attained by the young practitioner, we cease to wonder at the enthusiasm with which the initiative of the Institute in this matter has been responded to. Now, on whose shoulders fell the task of initiating and carrying forward this the greatest work of the Institute, as I do not hesitate to call it? Several shoulders no doubt divided the load; but on none did it fall so heavily, and none were, perhaps, so broad and so able to sustain that load, as those belonging to Mr. Arthur Cates. Mr. Cates had shown a great interest in this subject so early as 1855. He became identified with the Examining Board in 1877. When the Examinations became obligatory, in 1882, he was appointed Chairman of the Board. He elaborated the scheme for progressive examinations in 1889. He retained his position of Chairman till his retirement last year, when for prudential reasons his health seemed to demand that step. It is doubtful whether, without Mr. Cates's personal influence, this great work could have been carried on with the success which has hitherto attended it. His tact and courtesy have always been perfect. His ready sympathy, accorded to colleagues and students alike, has been most conspicuous. The unsuccessful candidate has returned to give the Chairman thanks for "relegation to his studies," and for the manner of it; and, stimulated to renewed exertion, has passed with credit a later examination. Mr. Cates last year most generously offered a prize in books of the value of ten guineas to be given at each Final Examination (now twice a year), to the candidate who sent in the best "testimonies of study," himself passing the examination. Mr. President, I have endeavoured in as few words as possible, and I fear very inadequately, to show the gratitude which the Institute (from its oldest member to the latest accession to its ranks by way of the Examination Room) must feel towards Mr. Cates for his services on its behalf.

[The bowl having been uncovered, Mr. Waterhouse, addressing its recipient, continued:—] Mr. Cates, I am indeed most happy in having been invited by the Board of Examiners to be the medium of handing to you—of asking your kind acceptance of—this testimonial. It is intended as a slight but sincere expression of their personal regard for you, and of their admiration of the way you have presided over their deliberations and their practical work for the last thirteen years. They beg it may remind you of their unceasing regret that they are to see your presence in the Chair no longer, though they hope it may be many years before you cease to take any interest in their proceedings, even to giving them your valuable counsel and advice. This testimonial is from the past and present working members of the Board alone. Without doubt many members of the Institute outside the Board would have liked to join in the presentation if they could have done so; for if ever a great work well carried out deserved recognition for its success, then so do the Examinations established by the Royal Institute of British Architects, in which you have borne so distinguished a part. This offering is just an ebullition from the hearts of those who with you have borne the burden and heat of the day, and who rejoice with you in the day of your success. There never was a testimonial more genuine, more spontaneous. You have seen the good ship "Obligatory Examination" (you christened her, I believe, yourself), built on lines for which you yourself were in a great part responsible, fairly launched and fully equipped. She has gone forth on many quests, and returned laden with the quickened intelligence of our younger brethren for putting their stores of knowledge to ready use. With the ever-ready forethought and vigilance of her commander at hand on quarter-deck, aided by a zealous staff of officers, your ship has met with no misadventure so far. It may be remembered, Gentlemen, that at first those who disapproved of this venture were scandalised at the thought of our proposing to test candidates in their powers of design. Now, had we been intent to force systematically a particular school of architecture upon the exclusive attention of our candidates, there might have been some reason for that anxiety. But such was not the case. In this matter all that we desire to discover in our candidates beyond good draughtsmanship is some appreciation of what makes for good design, apart from all questions of style—some instinct for refinement, for the fitness of things, for the adaptability of means to ends, an absence of all eccentricity and conceit. We desire to see them keep the great end of architecture in view—that of promoting the amenities of human life. We may, I think, reasonably ask our candidates for designs influenced by such considerations as these, and need not fear to award a good proportion of marks to those whose designs display thought and judgment, and that sense of rhythm and repose which are allowed to be characteristics of all good architecture. In conclusion, Sir, I beg heartily to congratulate you on the relations which have subsisted between the Board and yourself during the whole period of your chairmanship, and on the success with which your united efforts have been crowned. We trust many years may be given you to watch the further growth and development of this child of yours, beneficial alike to those who come immediately under its influence, and to the Institute at large.

Mr. ARTHUR CATES [*F.*].—Mr. President and Gentlemen, I thank you very cordially indeed for the kind manner in which you have received the eloquent words with which Mr. Waterhouse has tendered to me this most handsome and graceful testimony of esteem from my colleagues on the Board of Examiners, gentlemen with whom I have had the pleasure of working for fifteen years, and I may say throughout the whole of that time in perfect harmony and in most intimate relations. The reception which you, Gentlemen, have given to Mr. Waterhouse's observations, and your great kindness to me in endorsing the wishes and kindly feelings of my colleagues, greatly enhance to me the pleasure with which I have received this testimony of their esteem.

[Addressing Mr. Waterhouse, Mr. Cates continued :] There are other circumstances connected with this presentation which render it of special interest to me, apart from the terms in which you have so warmly expressed approval of what I may have done towards education, and the kindly feeling of my colleagues for fifteen years. When I learnt, after I had been compelled for reasons of health to surrender the position of Chairman of the Board of Examiners, that you had been willing to assume that position, and to throw your great influence, your great standing, and your high social and professional position into the support of those Examinations, it was a source of great gratification to me that you should have so accepted the position of Chairman ; and that you, Sir, should now have been the organ and mouthpiece of my colleagues in conveying to me in such terms this testimony of their esteem enhances its value to me very greatly indeed. Flattering as have been the terms in which you have spoken of my work, whatever my individual efforts may have been, they would have been of but little account had I not from the very first received the kind and sympathetic aid of many friends who encouraged me by their assistance, so that we at last attained the establishment of the Obligatory Examination. The support that I then received from the Board appointed to carry it out was of the most encouraging character. Year by year that Board adopted the policy of gradually stiffening the examination, gradually making it a little more severe and raising the standard, until at last a standard was attained which enabled and justified the introduction of the Progressive Examinations ; and I hope that as time goes on we shall find that standard still not only maintained but increased, so that the great results which have followed from the Obligatory Examination, and have followed already from the Progressive Examinations, may be continued. On those screens I see before me specimens of studies submitted by Mr. Anderson in the Intermediate Examination. Those studies ten years ago would have been considered to be of most extraordinary merit. Now it is no disparagement to the work of Mr. Anderson to say that, although his drawings are so admirable, yet there are others who follow very closely upon his footsteps ; and those drawings we make a standard which should be aimed at, not to be attained by all, but a standard of perfection to be aimed at and desired. And it is, Sir, a very great satisfaction to find that, as I understand, the Mr. Anderson who has so distinguished himself there is the son of a gentleman who occupied the Presidential Chair a few years ago with such success,* and to him we may tender our congratulations that the worthy son of a worthy father has taken so high a position in the Intermediate Examination. I do not know, Sir, whether the students, the 700 and the 1,000 who have benefited by these Examinations, quite appreciate the amount of labour and pains which the Board of Examiners individually, one and all, have devoted to this matter. I, who have known every detail, and perhaps know the work of each of those Examiners, may say that I have been surprised, astonished, and gratified at their sacrifice of their personal interests, in their devotion of time to the conduct of the Examinations, and to giving excellent counsel and good advice to the candidates. To them the success of the Examinations is greatly due, and to them the students and those who have passed are deeply indebted for the time which they have given—all of them busy men engaged in practice in their profession—without remuneration to the advancement of this good work. But they have had their reward, Sir, because they have seen the result of the sacrifice of time on their part in the development of the excellence of work in the students, and in the great advance of knowledge shown by the candidates who have come up, and also in the general improvement and development of architectural education. Now, Sir, you have mentioned the great services that were rendered by members of the Board; but there is one other who now, alas! is not with us, who rendered exceeding great service in the first initiation and in the subsequent arrangements. I refer to our dear friend, Mr. William H. White. To him this Board of Examiners were deeply indebted for counsel, for work in the secretarial department, and for an immense amount of assistance which could hardly have been rendered by any one who was not so well acquainted with the practice of the Continent and with education in England. There is also one other person whom I should mention in relation to this matter, to whom I have been under great obligation, who, by his care, his attention, his calm appreciation of difficulties, and sometimes his restraint on perhaps the somewhat hasty action of an impetuous Chairman, has done very great service in working out detail and in conducting the minor matters of the Examinations. I refer, Sir, to Mr. Herbert G. Tayler, whom I am very pleased indeed to be able publicly to thank, and to express my appreciation of the great services he has rendered to me personally in my capacity as Chairman. We may compare, Sir, the condition of architectural education with what it was when I first entered the profession. More than fifty years ago I became a pupil of Sydney Smirke, R.A. In those days the term of pupilage was five years: it had been seven, it was reduced to five; it is now reduced to three. The parents or friends of the pupils paid a premium of 300 or 500 guineas for the "run of the office." If they chose to work, well and good; they might work, they might do their master's work, they might save him the expense of paid clerks, they might do whatever work was suited to their particular capacity without any reference whatever to any systematic education. We had the lectures of Professor Donaldson at University College; we had Professor Hosking at King's College; we had the School of Design at Somerset House that was just about established; there was Leigh's Academy in Maddox Street, near St. George's, Hanover Square, now the well-known Academy in Newman Street, where we could study from the life, and study ornament, and make acquaintance with other architects, and where I made my acquaintance with William Burges, the pupil of Edward Blore; but there was no order and no systematic arrangement, no organised course of study—every one followed his own ideas without guidance, and worked or not as he thought fit. The Royal Academy provided the student in architecture with a bone, which made him a member of the Antique School, and enabled him to obtain a catalogue and go to the exhibitions; but, unless he desired to enter upon one of the competitions, he was not compelled to attend lectures, and he had no education or instruction whatever. Then, Sir, in 1855, the Architectural Association memorialised this Institute; and that memorial, although I took some part in its preparation and bringing forward, is, I think, a somewhat remarkable document, because it shadowed forth exactly those progressive examinations which have so recently been established here. On that memorial there was a vast amount of discussion, and the Voluntary Examination was not established till 1861. Then you have mentioned, Sir, the several stages which the examination took; and we have at last realised the words of the memorial in that we now give students "in preparation for entrance upon their articles, in studies during the period of their sojourn in an office, and in the critical period before commencing practice, guidance not before obtainable, in providing for removing deficiencies in preliminary education—the want of training in mathematical and geometrical accuracy—the scanty knowledge of details and form, and, generally, want of precision and exact knowledge, which, no less than brilliant draughtsmanship and sketching and facility of design, lie at the root of an architect's success." And not only in England, Sir, but in other countries, there has been very great advance made in the education of architects, and I may specially refer to what has been done in the United States of America. There Professor Ware, Professor Babcock, and others have established systems of education and University courses which must produce a very great effect upon the future of American architecture. In a pamphlet which I circulated in 1887 * I gave full particulars of those courses, and in the evidence which I gave before the Royal Commission on the Charter of the Gresham University in 1893 I entered fully into details. I should refer those who are interested in the subject to the evidence that I there gave, and to the appendices, which give full details of the systems that are adopted in America

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* Mr. J. Macvicar Anderson, *President* 1891–94.

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* Papers read at the Meeting of the General Conference of Architects, 4th May 1887, of which I sent out 2,000 copies, in order to prepare the way for the establishment of the Progressive Examinations, including communications from Professor William R. Ware (Columbia College), Professor the Rev. Charles Babcock (Cornell University), and full details of the architectural course at Cornell University, Ithaca, N.Y.; Columbia College, New York; the Massachusetts Institute of Technology, Boston; the Ecole des Beaux-Arts, Paris; the Ecole Spéciale d'Architecture, Paris; and the Royal Academy of Arts, London. My evidence before the Royal Commission in 1893, and the appendices thereto, brought this information up to date.—A. C.

and in France. From that evidence, from the evidence given by Mr. Anderson, Mr. Emerson, Mr. Slater, and myself in the endeavour to obtain for architecture a recognition as a separate and definite subject in the University course, we have had this fortunate result, a result which must be followed up and carefully watched by the Council of the Institute; for in the Report of that Commission they recommended that the Royal Institute of British Architects should have the privilege of nominating a member of the Senate of the new University—a very important concession, placing architecture for the first time in the position which it should occupy in any University course. But you have touched, Sir, upon the question of design. That is a matter of vital importance, and it is one which we, I think, to some degree, misunderstood; it led to a considerable amount of opposition when the initiation of this examination took place. There is, indeed, a very great danger in all these educational schemes. There is a peril which has become real in some countries, and which I hope will never become real in England. England has of late years maintained a position amongst the architectural bodies of Europe of an exceptional character. In all the communications which I have had with the architects of America, of France, Germany, and Italy, there has been a universal expression of admiration and of praise for the individuality, the independence, and the originality of English architecture. Those who study the architectural journals which are issued in all the countries of Europe, and compare them with the works produced in this country, will, I think, fully appreciate how far England stands before all other countries in that freedom, in that ability of design, I will not say in great public buildings always, but in the general domestic work of the country. To imperil that by any academic system would be most unfortunate; and it is that academic influence, that influence of one style, of mannerism, which must be carefully avoided. Hitherto it has been avoided, and I hope most sincerely it will continue to be avoided; that nothing will be done to imperil the pre-eminent position which English architects take in that particular class of work, or to imperil their independence and facility of design, but rather that what we are now doing shall aid materially in improving it by giving to those who desire it the opportunity of acquiring the knowledge of detail, and the mastering of the grammar, the syntax, and the prosody of the language, before they attempt to compose great works in it. I must confess, Mr. President, that, although Mr. Waterhouse has placed me before you as in some degree the founder of these Examinations, I am no advocate, and never have been an advocate, for competitive examinations. These Examinations that we have established are simply a test of the standard that each may have reached—an object and aim to be attained, and a standard of merit to be worked up to, and only to be attained by close study. There is no struggle here, Sir, in these Examinations, of cram; there is no conflict between the coach and the examiner; they are simply a guidance for education, and a standard by which the acquirements of the students may be ascertained. And, still further, we have no pretence that these Examinations will make an architect. Those few who may be blessed with the divine inspiration and be born architects will derive untold advantages from the study that they must go through in order to pass; while those who are less privileged will be raised up, and by study and application, properly directed, will ap-approach nearer the ideal, and become more capable and fit to practise and to carry out the duties of their profession. Because, Sir, these Examinations provide the minimum, they are not conclusive—there is no finality in them. The most successful in passing these Examinations still remains only a student, and in his study to enable him to pass them he has simply acquired the power of learning, the power of study; and he must use that knowledge simply as the basis for further studies in order to place himself in the position of a worthy member of the profession and of this Institute. The great good that the Examinations have done has been the widespread influence that they have had in raising the standard of education, not only in London, but throughout the whole country. In Scotland and in the North, as well as in London, immense progress has been made. Glasgow, Liverpool, Manchester, Nottingham, Leicester, Newcastle, Bristol, have all advanced greatly, in order that their students may come forward and attain the standard that we have adopted here; and it is by so doing that the influence has become so widespread that it is impossible to measure the advantages which have been derived from it. I might, Sir, go on much further, but the time is limited, and there is much to do to-night. I will only again most cordially thank you, Sir, and Gentlemen, for the way in which you have received the kind expressions that have been used towards me. I thank my colleagues of the Board most cordially for the handsome testimony of their kindness and good feeling towards me, and I thank you, Mr. Waterhouse, especially, for the courteous and graceful terms in which you have conveyed it to me.

The late Edward Falkener [*Hon. F.*].

Mr. Penrose, F.R.S., ex-President of the Institute, has kindly contributed the following sketch of Mr. Falkener's career:—

The subject of the following brief memoir was the son of Lyon Falkener, who was for many years the head of one of the Ordnance departments, and descended from an old Leicestershire and Rutlandshire family. His son, our late Honorary Fellow, born in February 1814, was educated at a private school, and then by private tuition. As architectural pupil he entered Mr. Newman's office, and became a student of the Royal Academy, where, in 1839, he gained the gold medal for architecture. Then for seven years he travelled assiduously over a large extent of country, much of which has even now been rarely visited by European travellers—namely, Asia Minor, Syria, Egypt, Greece, Crete, Italy, and Russia. In 1847 he was allowed by the authorities to excavate at his own expense, and under his own superintendence, a house at Pompeii, where he resided twelve months among the ruins. The writer of this memoir was not so fortunate as to fall in with Mr. Falkener during his travels, although he must have been near him at certain points; but he heard from a friend, who had returned from geological study in Asia Minor, of a young English architect he had there met with, whose enthusiasm for research of all kinds was most extraordinary and indefatigable. Mr. Falkener had always been noted for his generosity in placing the results of his researches in the hands of any one he thought would make good use of them. The late James Fergusson was indebted to him for a considerable number of the illustrations in his *History of Architecture*, and the Society of Dilettanti for the drawing of one of the plates in the fourth volume of the *Ionian Antiquities*. The following extract from the *Transactions* of the German Archæological Institute in Rome will illustrate this phase of his character, as well as the extent and value of his researches: it is a translation, very slightly abridged, from the report on certain inscriptions copied by Falkener in Asia Minor by Herr Hensen, Director of that institution, and published in the *Annali dell' Instituto di Corrispondenza*, 1852:—

"Edward Falkener, of England, who had been visiting Egypt, Palestine, and Turkey, was at Corfu on his way home, when he found there some old books of travel in Asia Minor, which induced him to re-examine that country. Accordingly he returned to Syria, by way of Beyrout, in April 1844, and thence proceeded to visit Aleppo, the Cilician Gates, and Tarsus, not without much trouble, fatigue, and danger. Travelling by the seaboard of Cilicia and Pamphylia in very hot weather, he caught a fever, which obliged him to take to the mountains of that province, where he carefully explored Termessus, Cremma, and Sagalassus, and Antioch of Pisidia, all the time suffering from the fever, as well as Lystra and Derbe, staying a few days at Iconium" (places which to a religious mind like his would be hallowed ground). "He then went to Laodicea, Combusta, Karahissar, Ushak, Philadelphia, and Sardis, arriving at Smyrna at the end of August. After staying there for a little rest and recovery, he revisited Attalia by way of the Valley of the Meander, through Tralles, Mastaurus, Antioch, Aphrodisia, Trebisond, and remained some time at Hierapolis, of which he made accurate measurements and drawings. Then, by way of Laodicea and Colosse, he examined four remarkable towns, namely Cybara, Œnoanda, Balburia, and Bubon, places to which Captain Spratt had directed him. Then, after visiting Selge, he went to Lycia, which the heat had previously hindered him from visiting, and discovered an ancient city, Arycande. In January 1845 he reached Stratonice, and thence proceeded to Labranda and its *via sacra*; then to Mylasa, Euromus, Halicarnassus, and Branchidæ, Miletus, Heraclia, Priene, Magnesia, Ephesus, and Samos. Returning to Smyrna, he made an excursion to Claros, Teos, Erythræ, and finally directed his course to Constantinople, by way of Magnesia, Sipylus, Pergamus, Thyatira, Cesarea, Azani, Cotya, Prusa, Nicæa, and Nicomedia, arriving at Constantinople April 1845.

"In all these journeys he described the sites, and measured and drew the monuments. At first, that is, during his wanderings in Cilicia, he had noticed the inscriptions only for their architectural effect, and had neglected their peculiarities, but afterwards he copied them most accurately, and collected more than three hundred. These he handed to me as Secretary to the German School on his return to Rome in 1849."

Dr. Hensen then proceeds to speak of the value he set on Falkener's work in amending certain inscriptions which had previously been published by Boeckh and others, and concluded, "In qua re summopere adjutum me esse profiteor diligentia Falkeneri." All the architectural records which he took in these extended travels bear witness to the attention to accuracy which Herr Hensen has so much praised in the above-mentioned report on his copies of inscriptions.

The above refers entirely to Mr. Falkener's first journey. Several others were undertaken afterwards, in which he studied the Continental museums.

On Falkener's return to England, he commenced practice as an architect in London, but did not carry this very far. Indeed, excepting a block of offices, part of which he occupied, and his own house in Carmarthenshire, there seems to be nothing recorded of practical architecture. He devoted himself chiefly to publications on archæological subjects, varied to some extent by water-colour drawings, which were from time to time exhibited at the Royal Academy, one going to the Paris Exhibition of 1855, and receiving the *grande médaille d'honneur* (Beaux-Arts). In 1861 he was presented with a gold medal by the King of Prussia. For the three years during which the *Museum of Classical Antiquities* was published, he was the editor and also largely a contributor. This publication was an important event in British archæology. It brought together much useful information from various writers, viz., Hittorff, Sir C. Newton, Watkiss Lloyd, S. Birch, and others, but was especially valuable on account of his own contributions. The restoration of the mausoleum at Halicarnassus is not yet so far settled but that Falkener's views on the subject, although given before Sir C. Newton's excavations threw so much additional light upon it, may still be worthy of the attention of any one who cares to engage on this quest. But the article on the Nereid tomb, found at Xanthus, and described in vol. i. p. 256, remains still a valuable contribution to classical archæology. At p. 263 of vol. ii. is an article on the remains of ancient theatres in Crete, followed by a supplement published by himself in 1854, and referred to below. In the same volume, p. 35, is the description of the house at Pompeii, once belonging to M. Lucretius, which has been already referred to.

The publications under his own name are mainly the following:—

In 1854 a pamphlet forming, as before mentioned, the supplement to the account of Cretan theatres: it is drawn from certain papers, being reports preserved in the Library of the Marciana at Venice, among the reports addressed to the Republic by the officers in charge of the conquered provinces in the sixteenth century. Falkener had himself travelled in Crete, and was therefore peculiarly fitted for the task of publishing these documents. As it is to be hoped that before long this island will become much more accessible than it has been for many years, these papers cannot but have a promise of great usefulness. They contain a description of the acoustic vases found in one of the theatres.

In 1860 was published *Dædalus, or the Causes and Principles of the Excellence of Greek Sculpture.* This, though not a profound work, is full of ingenious reflections, and, together with the notes and appendix, shows the author's large acquaintance with classical authors.

In 1861 appeared a pamphlet on *The Hypæthron of Greek Temples*, being a paper read before the Archæological Society of Berlin. The greater part is occupied in answering criticisms on *Dædalus*. So much of it as refers to the Hypæthron is worth the attention of any one engaged in discussing that curious and rather difficult subject.

In 1862 *Ephesus and the Temple of Diana* was published. It is curious to read the painstaking and very plausible research exhibited in Falkener's discussion of the site of the great temple, now that the true site is known, through the happy inspiration which at last crowned the persevering search made for it by the late Mr. Wood. The site, now that it is discovered, is seen to accord with the confusing data left by ancient writers, but it is equally true that their first obvious meaning is much more in the direction of Falkener's hypothesis. As the full restoration of the temple still admits of much discussion, the documents collected by Falkener on this branch of the subject are well worthy of attention.

In 1892 appeared *Games Ancient and Oriental, and how to play them.* This work exhibits with abundant illustration an interesting phase of ancient life. In it the author deduces with a good deal of research the games of chess and draughts from Egyptian and Assyrian sources, instead of the formerly generally received opinion that they came from China or Hindustan.

Mr. Falkener had collected during his travels a unique collection of Oriental and chiefly Mameluke armour, which was lent by him to the Crystal Palace at Sydenham, but was unfortunately burnt in the fire which occurred there some years ago. Nor was this the only loss he suffered from the same element, one valuable collection of pictures and another of books having been burnt on two different occasions.

On 20th November 1893 he contributed to the Institute an elaborate Paper on "The Grecian House as described by Vitruvius,"* illustrated chiefly by his own Pompeian researches. Many will remember his beautiful and numerous water-colour drawings then exhibited, his work in this direction showing that he was not only a careful investigator, but that he possessed also the hand and eye of a true artist.†

All the above-named published works he presented to the Institute, and in 1881 added a manuscript book which deserves to be specially mentioned. Its title is *A Catalogue of Publications on Architecture and Art.* It is very full, and is drawn up with all his characteristic quality of neatness and order. It might form the basis of a valuable treatise on architectural bibliography. It has reference chiefly, if not entirely, to the works in the British Museum.

His last appearance amongst us was when he was admitted to membership after his election as Honorary Fellow on 2nd December 1895, with which he was evidently much gratified;‡ and whilst the Institute cannot but sincerely regret that he had belonged to us for so short a time, there remains the consolatory reflection that his name will still be recorded on our rolls.

Mr. Falkener, till within a very short time before his death—which took place on the 17th December last, and therefore in his eighty-third year—was engaged on a work on the Greek houses in Pompeii.

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* JOURNAL, Vol. I. 3rd Series, p. 29.

† A complete list and description of these drawings is given in the JOURNAL, Vol. I. 3rd Series, p. 86.

‡ See Mr. Falkener's remarks on this occasion headed "A Retrospect: 1842–95," JOURNAL, Vol. III. 3rd Series, p. 135.

He was a member of the Academy of Bologna, and of the Archæological Institutes of Berlin and Rome, a Knight of the Dannebrog, J.P. for Carmarthenshire, and a Governor of Christ's Hospital. He was the recipient of three gold medals from abroad in connection with his archæological researches.

In 1866 he married Blanche, the fourth daughter of Dr. Benjamin Golding, who, with a son and three daughters, survives him.

The late Daniel Brade [*F.*].

Daniel Brade, whose death occurred on the 11th ult., was elected a Fellow of the Institute in 1881. Born in Liverpool in August 1829, he was educated at Park Gate, Cheshire, and served his articles with the late Mr. Clayton, an architect practising in Liverpool, with whom he remained nine years. Leaving Liverpool in 1853, Mr. Brade came to London, and was for seven years assistant in the offices of Sir Joseph Paxton, and afterwards for some years with Mr. Broderick, in Buckingham Street, Strand. He subsequently started practice in the Strand in partnership with Mr. Smales, under the firm name of Brade & Smales. The partnership was dissolved after a few years, when Mr. Brade purchased the practice of the late Mr. Miles Thompson at Kendal. Here he was successful in winning various competitions, among the more notable being those for churches at Carnforth and Hutton in Lancashire, and Bassenthwaite in Cumberland; the new market-place in Kendal; and a bridge across the Lune for Lord Bective. He received also the second premium for the Leeds Town Hall competition. In the international competition for a design for the New West Façade of the Duomo, Milan, Mr. Brade's was among the fourteen premiated designs, and he was awarded a premium of two hundred guineas. The original drawing was exhibited in the Royal Academy Exhibition of 1889, and reproduced in *The Builder* of the 9th November of that year. In the competition for the design for the Victor Emmanuel Memorial, Mr. Brade was awarded the gold and silver medals. In 1890, after twenty years' practice in Kendal, Mr. Brade relinquished his practice in that city, and resigned his Fellowship of the Institute.

Books received for Review.

The Architecture of the Renaissance in Italy. A General View for the Use of Students and others. By William J. Anderson, A.R.I.B.A., Director of Architecture and Lecturer at the Glasgow School of Art, Author of "Architectural Studies in Italy." La. 8o. [B. T. Batsford, 94, High Holborn, W.C.]

Choir Stalls and Their Carvings. A Series of Examples of Misericords from English Cathedrals and Churches. Sketched by Miss Emma Phipson. Containing 300 examples. 4o. [B. T. Batsford, 94, High Holborn, W.C.]

Cottage Hospitals: General, Fever, and Convalescent. Their Progress, Management, and Work in Great Britain and Ireland, and the United States of America. With an Alphabetical List of every Cottage Hospital at present opened, with Plans and Illustrations. By Henry C. Burdett. Third edition. 8o. [The Scientific Press, Ltd., 428, Strand, W.C.]

Linear Perspective for the Use of Students. By G. A. T. Middleton, A.R.I.B.A., Author of "Stresses and Thrusts," &c. With diagrams. Sm. 8o. [B. T. Batsford, 94, High Holborn, W.C.]

American Steam and Hot Water Heating Apparatus. From the *Engineering Record*. Being a selected Reprint of Descriptive Articles, Questions, and Answers. With 585 illustrations. 4o. New York 1895. [Office of the *Engineering Record*, New York; London Office, 41 and 42, Temple Chambers, E.C.]

European Architecture: An Historical Study. By Russell Sturgis, A.M., Ph.D., F.A.I.A., President of the Fine Arts Federation of New York, &c. 8o. [Messrs. Macmillan & Co., Bedford Street, Covent Garden.]

A History of Egypt, from the Earliest Times to the Present Day. Edited by W. M. Flinders Petrie, D.C.L., LL.D., Professor of Egyptology at University College. Fully illustrated. Vol. II., XVII.–XVIII. Dynasty. 8o. [Methuen & Co., 36, Essex Street, Strand.]

Rating: Principles, Practice, Procedure. By P. Michael Faraday (Rating Surveyor). The legal matter revised by Stanley A. Latham, LL.B. 8o. [The "Estates Gazette" Office, 6, St. Bride Street, E.C.]

The "Higher Criticism," and the Verdict of the Monuments. By the Rev. A. H. Sayce, Queen's College, Oxford. Fifth edition. 8o. [The Society for Promoting Christian Knowledge, Northumberland Avenue, W.C.]

Architecture in Italy, from the Sixth to the Eleventh Century. Historical and Critical Researches by Raffaele Cattaneo. Translated by the Comtessa Isabel Curtis-Cholmeley in Bermani. Illustrated. Roy. 8o. [T. Fisher Unwin, Paternoster Square, E.C.]

Additions to the Library.

Mr. Deputy White, for four years a member of the Gresham Committee (City side), and chairman of that body, has compiled a concise and interesting history of Sir Thomas Gresham's important foundation [London: Effingham Wilson]. The author has presented the Library with a copy of his little work, which deals respectively with the Royal Exchange (and its three times of rebuilding), with the Gresham Lectures, and the Gresham Almshouses.

The Under-Secretary of State for India has presented the latest Report of the Archæological Survey of India, described and illustrated by Mr. Edmund W. Smith, and dealing with the Moghul Architecture of Fathpur-Sikri (part ii.); an extensively illustrated volume, containing a general plan of the remains, photo-etchings of the various buildings, as well as plans and illustrations of the details, ornament, &c. [London: W. H. Allen & Co.]

From Herr J. Stübben [*Hon. Corr. M.*] three numbers of the *Deutsche Bauzeitung* have been received, containing contributions from his pen on *Der Baulinienplan für die Alstadt Wien*, and *Emden als Hauptumschlagshafen des Kanals von Dortmund nach den Emshäfen*, both articles being illustrated. The same author has also forwarded a copy of the *Zeitschrift für Architektur- und Ingenieurwesen* containing an article on the

Platzanlage und Strafsenführung vor der Karlskirche zu Wien.

Lockwood's Price Book for 1897, edited by Francis T. W. Miller [*A.*], has been received from the publishers [London: Crosby Lockwood & Son], a handy compendium giving the usual useful information, including in the appendices a form of the Building Contract and Schedule of Conditions issued in 1895 by the Institute, the London Building Act 1894, and the regulations as to the procedure and fees of the Tribunal of Appeal.

The editor of *The Builder* has presented *The Builder Album of Royal Academy Architecture* 1896, a pleasant record, embodied in a large folio of last year's architectural work at the Academy. The drawings, of which some eighty are given, are admirably reproduced, and are arranged according to the type of building represented, each illustration being accompanied by a sufficiently explanatory note. [London: the Publisher of *The Builder.*]

An account of the opening meeting in last November of the Ecole Spéciale d'Architecture has been received from the School. It contains a report of the proceedings, including addresses to the students, by the President, M. Charles Dupuy, and M. Émile Trélat, Director of the School.

Mr. Arthur H. Reid [*F.*] has presented a copy of a lecture on Hygiene and Sewage Disposal delivered by him last November at the request of the Sanitary Board of Johannesburg.

The *Journal of Indian Art*, No. 57, is devoted to the consideration and illustration of the Pottery and Glass Industries of the North-West Provinces and Oudh. The letterpress is taken from a monograph by Mr. H. R. C. Dobbs, and there are thirteen plates, many of them admirably coloured, illustrating examples of the pottery in various districts, including Lucknow pottery and glassware. [Peckham: W. Griggs.]

The Fifty-seventh annual *Report* of the Deputy Keeper of the Public Records has been received from the Deputy Keeper, Mr. H. C. Maxwell Lyte, who supplies in an appendix an able historical and archæological account of the now demolished Rolls Chapel, furnished with a plan, and drawings of the different elevations and of a longitudinal section.

REVIEWS. XLIX.

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SMITHCRAFT.

A Handbook of Art Smithing, for the Use of Practical Smiths, Designers of Ironwork, Technical and Art Schools, Architects, &c. By Franz Sales Meyer, Professor in the School of Applied Art at Karlsruhe. Translated from the Second and Enlarged German Edition. With an Introduction to the English Edition by J. Starkie Gardner. Containing 214 *illustrations,* 8o. *Lond.* 1896. *Price* 6s. [*B. T. Batsford,* 94, *High Holborn.*]

There has been much talk lately of the German system of technical education, of which this book is, in a sense, the outcome—that is to say, it was written by a Professor of a Building Trade School at Calsruhe for the use of students, and one is impressed with the idea that the book reflects at once the merits and the defects of the system.

Let us begin with the good points, of which the first is quite an extraneous one—the scholarly introduction by Mr. J. Starkie Gardner, which, indeed, leaves little to be said on the historical side of the question, summing up, as it does admirably, the various evolution changes of direction of German smithcraft, and giving the reader just the indications necessary to his appreciation of its informing spirit.

Sections I. and II. deal with the "technology" of iron and with the working tools and machinery, and are, as might be expected, clear, concise, and accurate. The classification of the material into malleable and non-malleable iron is, though scientifically correct, perhaps open to misconception, as the term malleable is used in England only to denote softened cast iron. The part dealing with tools and machinery is valuable to students who are not necessarily working smiths, and the directions for using them are simple and easy to understand. Amongst the tools which differ from ours in form or are not used here are some very ingenious ones; and a vice, fixed by a ball-and-socket joint, in particular seems a very handy tool for light and complicated work.

Section III. treats of historical development, and is the most valuable portion of the book. Professor Meyer, in addition to the patient and systematic thoroughness which we expect from his countrymen, has something of that faculty of generalisation to which we are more accustomed in French writers, and the genealogical study could hardly have been better done within the limits of space—all too small—assigned to it. The same may be said of the greater part of Section IV., which treats of the principal fields of smithcraft, so that one is inclined to wish that less space in the text and certainly a smaller number of illustrations had been devoted to modern work; for, frankly, the examples illustrated are very, very bad, and set forth conspicuously almost every defect possible in wrought-iron design. One might indeed be tempted to suppose that the learned professor had included them as a series of "awful examples" of what to avoid, were it not for the commendation he bestows on some of them, and the fact that not a few are his own handiwork. Fig. 76, for instance, is a portrait in relief of a grand duke with a delicate "Louis XVI." laurel-wreath frame, surrounded by a bunch of flowers, a butterfly, and bugs of sorts, all executed with microscopic perfection in hammered iron! Of this production the author says that it shows "what a high degree of artistic capability there is in wrought iron."

A further extract will give the key to much that would otherwise be an unredeable riddle in connection with our Professor's attitude towards "design of specifically modern character." On page 108 he says: "In the latter the work clearly shows the endeavour to produce a good and rich effect with the least possible expenditure of time and money. The set square and compass play the chief part in the drafting of designs, and strip- and sheet-iron are frequently the only materials used in the execution." A good, practical, commercial standpoint truly! but, from an artistic point of view, it is devoutly to be hoped our own technical schools will never teach their pupils to go to work in this spirit.

The illustrations of modern "gasaliers" and gas brackets are incidentally interesting as explaining the genesis of the design of similar articles turned out in such numbers in Birmingham, a matter which has long been a mystery to so many of us. To us it must seem well-nigh incredible that a writer possessing evidently so keen a sense of beauty and fitness in historical art should seriously put forward such productions as worthy indications of the tendency and spirit of modern art work. The book, nevertheless, gives food for reflection, and in some sense misgiving as to the future development of industrial art, and the question is forced upon one, "Are we in this country taking the right direction?"

In viewing the choice productions of modern craftsmanship one can hardly escape an uneasy feeling that such art is essentially esoteric, and not to be understanded of the people—that the simpler and more uncostly the thing, the less it will appeal to the average Briton.

One is struck with the attitude we all—workers however humble in the field of art—take towards the modern spirit. We linger lovingly on the hither bank of that "irremeabilis unda" which so inexorably divides ancient from modern creative art, our eyes and longings fixed on the further shore; to us increasingly machinery and machine-made things are anathema; and yet it is evident that machinery will beat us in the end. Commercial rivalry and the fierce competition of these days make this certain, and the question which seems to suggest itself is, "Cannot we make the best of it?"

Surely if our enthusiastic army of designer craftsmen were to give some of their attention to mere commercial products, strictly within the limits of cheapness and facility of mechanical production, they would do much to leaven the mass of such things, and more to educate the public taste than many lectures. This they ought to do, and not to leave the other undone; true art must always be in a sense costly—a thing for the few—but why should the many be left to ugliness unredeemed?

To return to our book, the final chapter, an admirable one which might well have been longer, treats of arms and armour and smaller utensils, with charming illustrations of an art in which the German smiths were so pre-eminently skilled; though even here our author cannot leave us without his modern examples in the shape of an atrocious fire-screen and a cuckoo-clock.

The Englishing is, on the whole, well done, in spite of some phrases which make one shudder, but why "Art-Smithing"? Surely "Smithing Art" were better. Have we not the draper with his "Art Shades"? The type is vile, and needs no "Printed in Germany" to inform us of its origin. The illustrations are generally clear and accurate, if somewhat hard; two are printed upside down, and only one comes from England, and that not especially interesting or characteristic.

On the whole, a useful book and a valuable contribution on a not much studied art, in parts so good that it seems a pity it is not a little better.

Charles Edward Sayer.

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THE AUTHORITY OF VITRUVIUS.

Das Griechische Theater: Beiträge zur Geschichte des Dionysos-Theaters in Athen und anderer Griechischer Theater. By Wilhelm Dörpfeld and Emil Reisch. Sm. fo. Athens, 1896. [*Barth and Von Hirst, Athens.*]

Betragtninger over Vitruvii de architectura libri decem med Særligt Hensyn til den Tid, paa hvilken dette Skrift kan være forfattet. By J. L. Ussing. Pam. 4o. Copenhagen, 1896. [*A. F. Höst & Son, Copenhagen.*]

This work, a copy of which has been presented to the Library by the joint author and distinguished archæologist Dr. Dörpfeld, contains possibly the most authoritative descriptions of the Greek theatre since Vitruvius, with whom, as is well known, Dr. Dörpfeld, in the light of his thorough examination of the remains of the Dionysiac theatre at Athens and of those at Epidaurus, Megalopolis, and elsewhere, is in conflict regarding differences, not recognised by Vitruvius, between the Greek and Roman theatres. The greater part of the excavations were made during 1884–88, and the delay in the publication of the book has occurred through the authors' desire to present as exhaustive a treatise as possible on the subject. The work, which contains twelve plates and ninety-nine illustrations in the text, is divided into eight sections, dealing respectively with the Dionysiac theatre at Athens, the Greek theatres outside Athens, the Greek theatre of Vitruvius, the old Greek theatre according to the dramas that have been preserved, the

Greek words signifying the different parts of the theatre, &c., and concludes with a general summary by Dr. Dörpfeld.

With regard to the Greek theatre Dr. Dörpfeld is at variance with Vitruvius, and now a Danish scholar, Mr. J. L. Ussing, disputes entirely the authenticity of *Vitruvii de architectura libri decem.* The authenticity of Vitruvius' works has been questioned before. Schultz, in a now almost forgotten correspondence with Goethe (a translation of which was read at a meeting of the Institute in 1837), expressed the opinion that they were a compilation made about 970-998 by, or under, the auspices of Pope Sylvester II. Since Schultz's indictment the matter seems to have lapsed, and it is now revived by Mr. Ussing's Paper contributed to Det Kgl. Danske Videnskabernes Selskabs Skrifter, Copenhagen. The author's conclusions (there is not at present space to give his arguments) are, briefly, that the writer of *De Architectura* was not a contemporary of Augustus, but that his period was much later, scarcely before the third century, and possibly as late as the fifth—Mr. Ussing advances considerable philological criticism in support of his point: that he lived at Ravenna or in its neighbourhood, and that he was not a practical architect, but a dilettante, an unknown man of letters, whose faith in his own work may be estimated by the fact of his withholding his name and using that of the architect mentioned by Pliny; and, further, that he derived largely from Pliny, Varro, and Athenæus. Mr. Ussing's Paper is supplemented by a brief *résumé* in French, which will be useful to those who are interested in the subject, and not acquainted with the Danish language. Rudolf Dircks.

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OLD CORNISH CROSSES.

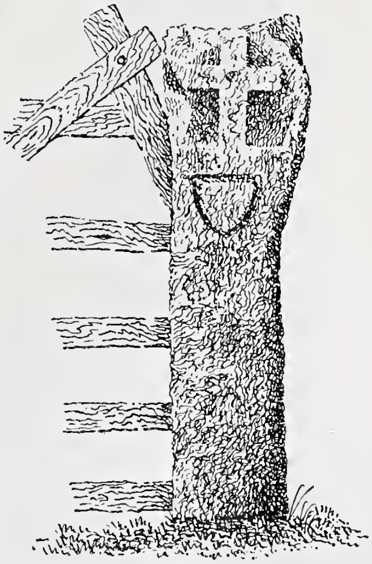
Old Cornish Crosses. By Arthur G. Langdon. With an Article on their Ornament by J. Romilly Allen, F.S.A. (*Scot.*) 4o. *Truro,* 1896. *Crown* 4o 30*s. net*: 500 *printed. Roy.* 4o. 60*s. net*: 50 *copies printed.* [*Joseph Pollard,* 5, *St. Nicholas Street, Truro.*]

There is much satisfaction in the perusal of a book when the reader is able to consider that the work intended has been done once and for all; and not only done, but done well. Old Cornish crosses have long been a favourite subject for detached Papers, not only by tourists, but by those having more or less claim to archæological knowledge. The crosses themselves make pretty sketches; often the surroundings are picturesque—if not, they can be made to appear so. And a great deal might be written with respect to them without necessitating a large amount of research. A few stock terms—"Celtic," "Irish," "Ionic," "Irish saints," &c.—freely used at proper intervals, give a sufficient local colour, and suggestion of a large amount of knowledge in reserve.

But in writings of this character there has been no attempt at anything exhaustive—little or no scientific examination of the subject as a whole—and one could only feel, after such a perusal of many immature productions as their nature warranted, that possibly a certain amount of material—generally more or less inaccurate—had been provided for the scientific examiner, but that was all. In some cases, it is true, we had carefully written monographs on individual crosses, or even those of a parish or district, but only sufficient to show how much was lost to us from the deficiency now so well supplied.

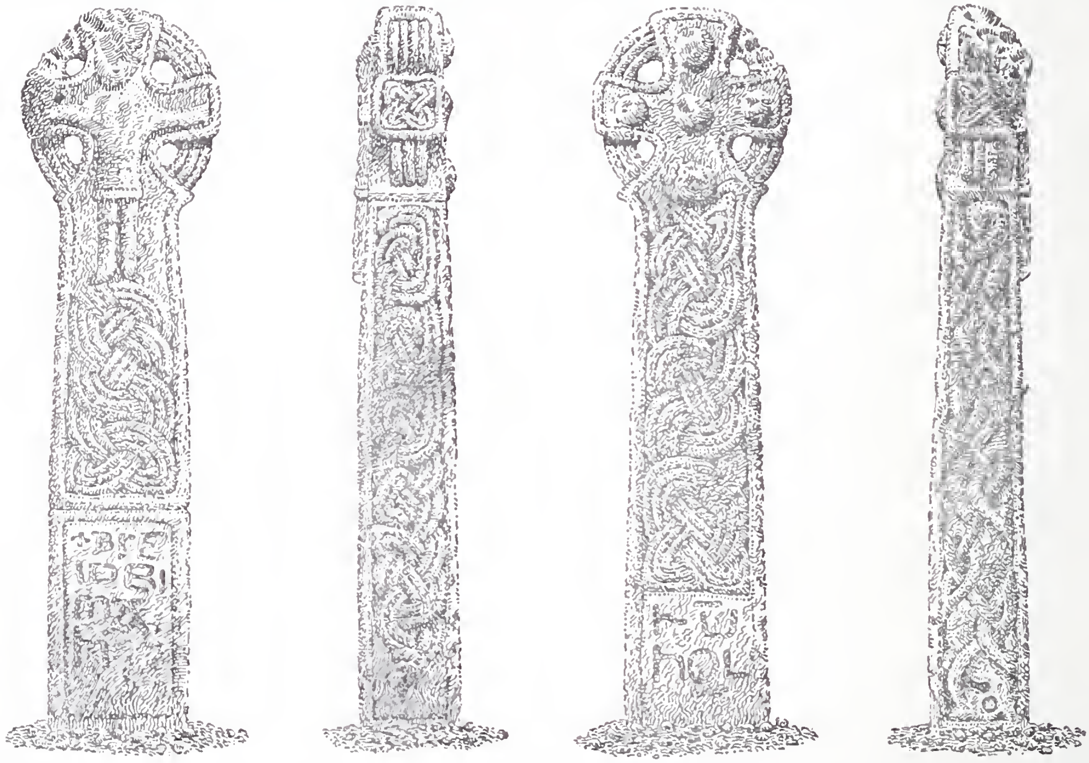
Mr. Langdon tells us in his Preface that when he "was led some twelve years ago to commence making measured drawings of the ancient crosses of his native county, he had no intention of producing a book on the subject." The county and archæologists in general are to be congratulated on the subsequent enlargement of his views, and on the result of his labours. Having in past years made measured drawings of some score or more of the crosses, the present writer has been able to apply an entirely independent test, and gladly bears testimony to the accuracy which marks Mr. Langdon's work. The author acknowledges the assistance which he has received from numerous friends—all well known in the county, and many whose reputation as archæologists extends over a far larger area. He has made good use of valuable help. It is not for a reviewer to attempt to disturb the privacy of the unnamed one without whose generosity, the author states, the work could not have appeared; but the thanks of the archæological public are none the less due to him.

Well known as many of the Cornish crosses are, few people are aware of the large number existing in the district. Mr. Langdon describes 331, besides inscribed pillar and coped stones, and without including either the thirty or forty bases from which the original crosses have disappeared, or the later Gothic crosses, of which, however, he furnishes a list.



CROSS AT TREVIA, LANTEGLOS-BY-CAMELFORD, NOW UTILISED AS A GATE-POST.

It is painful to read of the uses to which many of the monuments of our forefathers' piety have been degraded. "Gate-posts" appear to be a favourite purpose; and that long antecedent to the date when "agricultural depression" could be pleaded as any excuse. Three cross-heads are, or have been, used as "pig-troughs." Shafts are conveniently applied as "prop to barn," "rubbing-posts for cattle," "stand for beehive," &c., but one would fain hope that in many cases where stones from crosses have been built into church and other walls their preservation has been the primary object. However that may have been, we have, in the very recent wanton destruction of circles and avenues on Dartmoor "to mend the roads with," unfortunate evidence that we cannot afford to throw stones at the memory of those who have gone before us!


FOUR-HOLED CROSS AT LANHERNE, MAWGAN-IN-PYDER.

The mode of arrangement adopted by the author is satisfactory. The crosses are divided into—

Class A.—Unornamented stones: which class is again subdivided into upright slabs and pillars with crosses in relief; wheel crosses; wheel crosses with the figure of Our Lord in relief on the front, and a cross on the back; wheel crosses with projection at the neck or on the head; miscellaneous forms; holed crosses; Latin crosses.

Class B.—Ornamented crosses. Divided into: Monuments with incised crosses, or with incised ornament; monuments with sunk crosses, or with sunk ornament; monuments with miscellaneous ornament different in character from that on the crosses previously described, and consisting chiefly of beadwork or emblems in relief; monuments with Celtic or Hiberno-Saxon ornament.

Class C.—Miscellaneous monuments: including coped stones, early cross slabs, &c. These divisions are again subdivided under other sub-headings, and the scientific arrangement thus constituted appears to be carefully and thoroughly carried out.

The work derives not a little additional value from the scholarly "Notes on the Ornament," &c., by Mr. J. Romilly Allen. On p. 192 it will be observed that the author speaks of "St. Paul, or Paul as it is now called"—referring to the parish by Penzance. Had Paulinus, to whom the church is said to have been dedicated—the evidence seems clear that it was not St. Paul the Apostle to the Gentiles—ever more than the purely "local and temporary rank" of Saint?

The style of the numerous illustrations, while simple in character, is well adapted to convey a good idea not only of the design, but of the actual appearance of the crosses "touched by the hand of time." There is a satisfactory index and a sufficient map. When will printers learn to fold a map so that it may be referred to without being completely unfolded? Baedeker has shown that it is quite possible!

Somerset. JAMES R. BRAMBLE, F.S.A.

MINUTES. V.

At the Fifth General Meeting (Business) of the Session, held Monday, 11th January 1897, at 8 p.m., Professor Aitchison, A.R.A., *President*, in the Chair, the Minutes of the Meeting held 14th December 1896 [p. 107] were taken as read, and signed as correct.

The Hon. Secretary announced the decease of Edward Falkener (St. Clear's), *Hon. Fellow*; and Edward Howard Dawson (Lancaster), *Associate*.

The Hon. Secretary also announced the decease of David Brandon, *Fellow*, and having referred to his long connection with the Institute, to his services on the Council, and to his munificence in respect of the Library Catalogue issued to members in 1889, the entire printing and publishing expenses of which, amounting to £320, were defrayed by him, it was

> Resolved, that an expression of sympathy and condolence with the friends and relatives of the late David Brandon for the loss they had sustained by his death be entered on the Minutes of the Meeting, and be communicated to them.

The Hon. Secretary announced that the President (Professor Aitchison) and M. Charles Garnier had had the distinction of being elected members of the Royal Academy of Belgium, whereupon a vote of congratulation was accorded to the President by acclamation, and briefly responded to.

The Hon. Secretary referred to recent donations to the Library, and an expression of the thanks of the Institute to the donors was ordered to be entered on the Minutes.

The following candidates for membership were elected by show of hands, namely:—

As Fellow.

ALFRED BASKETT PINCKNEY [*A.*], M.A.Cantab.

As Associates.

HARRY JAMES GEE SMITH (*Qualified* 1896).
PHILIP APPLEBY ROBSON (*Probationer* 1889, *Qualified* 1896).
HUBERT WILLIAM WALKER (*Qualified* 1894).

The Hon. Secretary, replying to questions of which notice had been given by Mr. Wm. Woodward [*A.*], stated (1) That the Council proposed at their next meeting to delegate a Committee to consider, among other matters affecting the administration of the establishment, the question of filling the post of Secretary, vacant through the death of Mr. William H. White; (2) That a Committee consisting of Messrs. Alex. Graham, F.S.A., and Ernest George, *Vice-Presidents*, Mr. E. W. Mountford, *Member of Council*, and Mr. Alma Tadema, R.A., and Dr. Alex. S. Murray, *Hon. Associates*, had been appointed to take the necessary steps to procure a subscription portrait of Mr. Penrose, F.R.S., *President* 1894–96, to be hung on the walls of the Institute.

A resolution moved by Mr. Wm. Woodward [*A.*] and seconded by Mr. Zeph. King [*F.*], that an official intimation be conveyed through the Council to the Dean and Chapter of Peterborough Cathedral that the Institute was in entire accord with the scheme of restoration proposed by the advising architects, was objected to on the ground that the question could not be discussed without notice to the General Body; and the Hon. Secretary having suggested that a letter might be drafted apart from the Institute, which architects in favour of the proposed restoration could sign, and that such letter could be sent to the Cathedral authorities, Mr. Woodward withdrew his motion, and it was further suggested that the subject should be considered at the next meeting of the Council.

The President having read the Deed of Award of the Prizes and Studentships 1897, made under the Common Seal [p. 142 *et seq.*], the sealed envelopes bearing the respective mottoes or devices of successful competitors were opened, and their names and addresses found to be as follow:—

The Royal Institute Silver Medal (Essays).
Things New and Old.—John J. Cresswell [*A.*], 77, Victoria Street, Grimsby (the Medal not awarded, but Fifteen Guineas voted to Mr. Cresswell for Essay under the above motto).
Toujours Esperez.—George Cowan [*A.*], Town Hall, Portsmouth (Honourable Mention).

The Royal Institute Silver Medal (Drawings).
Fleur-de-Lys (device within circle).—Frederick Julian Wass, Dinglesyde, Melrose (The Silver Medal and Ten Guineas).

The Soane Medallion.
Russet.—John Alexander Russel Inglis [*A.*], 28, The Avenue, Brondesbury, N.W. (The Medallion and, under conditions of foreign travel, £100).
Labor ipse Voluptas.—James Alfred Swan, Grove Lane, Handsworth, Birmingham (Medal of Merit).
L'Éléphant d'Argent.—Charles Henry Holden, 156, Bradford Street, Bolton (Honourable Mention).

The Tite Prize.—(Not awarded.)

The Grissell Medal.
Heart and Shield (Device).—Sidney Kyffin Greenslade [*A.*], 53, Bedford Square, W.C. (The Medal and Ten Guineas).

The proceedings then terminated, and the Meeting separated at 9 p.m.

MINUTES. VI.

At the Sixth General Meeting (Ordinary) of the Session, held Monday, 18th January 1897, at 8 p.m., Professor Aitchison, A.R.A. *President*, in the Chair, the Minutes of the Meeting held 11th January 1897 [see above] were taken as read, and signed as correct.

The following Associates, attending for the first time since their election, were formally admitted, and signed the Register, namely:—Thomas Denton Brooks, George Cowan, and James Greenwood Stephenson.

Mr. Frederic Warren [*A.*] announced, as one of the executors under the will of the late David Brandon [*F.*], that the sum of £1,000 had been bequeathed to the Institute, and having read a short account of the life and professional career of the deceased [p. 144], it was

> Resolved, that the Institute do record its deep sense of appreciation of this further proof of Mr. Brandon's generous regard for the Institute; and that a very hearty vote of thanks be tendered to the representatives of the deceased for his munificent bequest.

Mr. Alfred Waterhouse [*F.*], R.A., LL.D., having referred to the invaluable services rendered by Mr. Arthur Cates [*F.*] in connection with the Institute Examinations, and having presented Mr. Cates with a silver punch-bowl subscribed for by past and present members of the Board of Examiners as a token of their esteem and appreciation, Mr. Cates replied in acknowledgment of the compliment, and made some observations in regard to the Examinations, and the influence they had exercised upon the progress of architectural education.

The President delivered an Address to Students [p. 133], and Mr. W. M. Fawcett, M.A., *Vice-President*, read a Critical Review of the Designs and Drawings submitted for the Prizes and Studentships 1897 [p. 137].

The President presented the Prizes, and introduced the Travelling Students for 1897, in accordance with the Deed of Award [p. 142 *et seq.*], viz.—

ROYAL INSTITUTE SILVER MEDAL AND TWENTY-FIVE GUINEAS (Essays): The Prize not awarded, but Fifteen Guineas presented to Mr. John James Cresswell [*A.*], for Essay on "The True Value of Tradition and Precedent in Architectural Design," under motto "Things New and Old."

Certificate of Honourable Mention to Mr. George Cowan [*A.*], for Essay under motto "Toujours Esperez."

ROYAL INSTITUTE SILVER MEDAL AND TEN GUINEAS (Drawings): to Mr. Frederick Julian Wass, for his drawings of Melrose Abbey, under device of a Fleur-de-Lys within circle.

SOANE MEDALLION and, under conditions of foreign travel, One Hundred Pounds: awarded to Mr. John Alexander Russel Inglis [*A.*], for his design for a Provincial Market Hall, under motto "Russet."

Medal of Merit to Mr. James Alfred Swan, for his design under motto "Labor ipse Voluptas."

Certificate of Honourable Mention to Mr. Charles Henry Holden, for his design under motto "L'Éléphant d'Argent."

PUGIN STUDENTSHIP (Medal and £40): awarded to Mr. William Haywood.

Medal of Merit to Mr. Charles de Gruchy.

Medal of Merit to Mr. James Alfred Swan.

Certificate of Honourable Mention to Mr. Walter Ernest Dobson.

OWEN JONES STUDENTSHIP (Certificate and £50): awarded to Mr. Arthur Edward Henderson.

GODWIN BURSARY (Medal and £40): awarded to Mr. Robert Stephen Ayling [*A.*]

GRISSELL MEDAL AND TEN GUINEAS: awarded to Mr. Sidney Kyffin Greenslade [*A.*]

The President then made the following presentations in accordance with the Deed of Award [p. 142 *et seq.*], viz.—

ASHPITEL PRIZE 1896 (Examination qualifying for Candidature as Associate): Books value £10 10*s.* to Mr. Thomas Denton Brooks [*A.*]

ARTHUR CATES PRIZE, December 1896 (for Testimonies of Study submitted for admission to the Final Examination): Books value £10 10*s.* to Mr. Charles Samuel Frederick Palmer.

The President made the following further presentations, viz.—

GODWIN BURSARY 1895: Medal, and cheque for £20, being second moiety of the £40 for travel, to Mr. Albert William Cleaver [*A.*], B.A.

GODWIN BURSARY 1896: Medal to Mr. Alexander Nisbet Paterson [*A.*], M.A.

TITE PRIZE 1896: Cheque for £10, being second moiety of the £30 for travel, to Mr. Henry Arthur Crouch [*A.*]

OWEN JONES STUDENT 1896: Certificate, and cheque for £25, being second moiety of the £50 for travel, to Mr. Hubert Christian Corlette [*A.*]

The proceedings then terminated, and the Meeting separated at 10 p.m.

PROCEEDINGS OF ALLIED SOCIETIES.

Architecture and the Applied Arts in Manchester.

The following is the substance of an extempore Address recently delivered to the Manchester Society of Architects by Mr. J. Ernest Phythian, one of the official guests of the Institute at the Dinner held at Manchester on the 20th of May last year:—

Referring to his appointment as Chairman of the Municipal Art Gallery Committee, Mr. Phythian said that the position was an exceedingly interesting, and to him an exceedingly congenial, one. It gave him a good deal to think about that was delightful, and a great deal to think about that was perplexing; and inevitably one came to consider the relations of art in many aspects. Not only on the Art Gallery Committee, but on the Town Hall and other committees of the Coporation, he could not but feel the necessity that existed for a much keener and much more intelligent general public interest in art than was shown at the present day, if art were to prevail adequately in their midst.

The arts of painting and sculpture, and the minor arts, were largely dependent upon the prominence people gave to what had rightly been called "the mother art," Architecture. Yet in these days we lacked the great controlling force required to put architecture in the place it should occupy. In earlier ages, happier in this respect perhaps than the present, there were "tyrants" or aristocracies, which laid out the cities, and determined that fine things should be, and should be prominent; hence one looked back to those past ages, not, alas! at the present time, for example, but rather for rebuke in matters of that kind. In the Middle Ages, again, there was the strong force of the enthusiasm for church-building. To that force we owed the great cathedrals and churches which remained intact in this country, and those lovely ruins which, as William Morris said, contributed so much to the enjoyment of the holiday one was so glad to take, if only to escape from the often commonplace, if not hideous, surroundings of city life. Now we lived under different conditions. There was no "tyrant." There was a limited monarchy. There was an aristocracy, but it was hardly effective in the way of controlling the laying out and building of cities. Church-building went on as before; styles of ecclesiastical architecture flourished in plenty; but they were not a force making for concentrated art, such as the church-building of earlier ages. What we had by way of ultimate control was the democracy; and in a municipal institution one was brought face to face with the democracy, and learned how it worked.

It could not be said that so far the working of democracy in this country, of a developed democracy compared with that of a century or two earlier, was wholly adverse to the prosperity of fine art. Surely one might point with pride to the municipal buildings erected in recent times in Manchester and other cities. It was recognised now that municipal buildings, town halls, &c., should not be mere places of public meeting or for despatch of public business, but that they should symbolise and express by means of art the municipal idea, the municipal ideal. Hence they had in Manchester such an interesting and successful experiment as the filling of the panels of the large room in the Town Hall with the frescoes by Ford Madox Brown. There were other panels in the building waiting to be filled; and it had been suggested that they should be filled with mural paintings, which should illustrate one side or the other of municipal and commercial life and history. There were being gathered by degrees in that hall portraits of men who had been connected with the city in the immediate past, and in earlier years still; and it was hoped to gradually get together a portrait-gallery of local worthies. They had also some statuary. Some of it was good, some of it commonplace, and some of it very bad indeed; but the blame for what was bad must rest quite as much with the sculptor as with the people who had subscribed for the busts and statues. Nevertheless, they possessed, as memorials of the higher side of Manchester history, such fine things as the statues of John Dalton and of Joule. They had also other statues and busts, which unfortunately illustrated the unhappy severance which prevailed between architecture and sculpture. There were pieces of sculpture, purely realistic and non-architectural in treatment, thrust into niches in walls of Gothic buildings, where they were strangely out of place, except to afford a curious criticism upon the existing conditions of Art, as compared with the way sculpture and architecture were linked in earlier times.

They might point with considerable satisfaction to movements taking place in their midst—movements urged on by the democratic ideal—that as much as possible of the best things of life should be placed at the disposal of the largest number of people. They were forced in that direction to-day. They could not help it; it was the very atmosphere they breathed. He would refer to a piece of work with which he had been connected, but which was particularly associated with the name of Mr. T. C. Horsfall—namely, the Ancoats Art Museum, where, realising the dulness of the lives of many of their townspeople, an effort had been made to introduce to them, by means of an art gallery, an enjoyment of beautiful nature and art. The collection showed the development of architecture, painting, and sculpture; and the intimate relations those arts ought to bear to one another were admirably illustrated. Not only by hanging pictures upon the walls, by addresses to grown-up people, to young people, and latterly (under a provision in one of the recent educational codes) to children from the elementary schools, an effort had been made—not to quicken, because it was not there before, but to create an interest in the fine arts. This was an experiment begun and carried on by a few amateurs, and it was increasing in value and in the range that it covered, so much so that for various purposes as many as 70,000 visits had been paid to the Art Museum within a single year. The institution had been worked entirely by private enterprise, and was not linked at all with the organised municipal life of the city. Then there was cause for congratulation in the development of Whitworth Park, where the recently completed art galleries contained a delightful collection, illustrating the English art of water-colour painting, and also a collection of casts illustrating the sculptor's art. A criticism had been passed upon what had been done there, especially in relation to sculpture—that there was not sufficient historical method observed in the arrangement; but that defect could easily be remedied. Then in connection with the School of Art in Cavendish Street, a museum was in process of erection out of funds arising from the Jubilee Exhibition of 1887, much of the success of which was due to the fine collection of English paintings exhibited there. Already the School of Art Committee were arranging for the filling of the museum with art-objects for the education of students and for the interest of the public. Textile fabrics would have an important place there, and memoranda illustrating the development of the art of painting. A prominent place would also be given to full-sized architectural casts of the kind found in the Trocadero in Paris, to illustrate the development of architecture in the Middle Ages, Romanesque, Early Gothic, Late Gothic, and so on to the Renaissance.

Again, in the Art Gallery in Mosley Street a collection of oil paintings, a permanent possession of the city of Manchester, was being gradually got together.

Why was this work being done? Who was expected to be reached by it? Not the few, but the many; and if they had no "tyranny"—in the Greek sense—and no effective aristocracy able to say, "Do this," and it was done, surely it was obvious that they must educate the democracy. It was a big task, but the only chance for art prevailing at the present day, as it had prevailed generations gone by, was, not that the democracy should be able to control art—not that the great bulk of the people should say in detail what was to be done, but that they should have enough interest in art, understand it sufficiently, enjoy it sufficiently, attach sufficient importance to it, to let those who had the knowledge and the power to have also the way and the means. Unless they had an effective public opinion ready to attach importance to art as well as to mere convenience, then they were always liable to see beauty giving way to convenience; which, after all, was often not essential. In the municipality itself they were constantly brought face to face with problems of that kind. A thoroughfare became overcrowded. There was, it might be, in that thoroughfare a public building with considerable architectural merit. Like the vigorous language used by the Queen of Hearts in *Alice in Wonderland*—"Off with his head!" generally speaking, the ordinary public and the ordinary municipal mind to-day, if a building interfered in the least with traffic, said equally vigorously, "Off with the end of it!" "Its architectural beauty will be spoiled," one objected. "How many people will care about that?" was the response; and, of course, practically nobody would care about it. More's the pity! Hence one often felt that it was almost a waste of money to spend anything at all upon architecture in such a place as Manchester, for the simple reason that nothing in the way of a general success could be achieved. It was little to the purpose to have an isolated good building here or there in a situation where it could only be half seen; to have a number of buildings upon which a good deal of money and a good deal of artistic power had been spent merely scattered up and down. They only made one feel sad thinking of lost opportunities. Rossetti said, in one of his poems, that a man should strive to make his work equal, lest some part of it should rise up some day to condemn his work as a whole, and himself as an artist. In a similar way the good things they had in a place like Manchester simply served to act as a condemnation of the total product. Where was the remedy? The remedy, so far as he could see, lay in the point that he had already mentioned. The bulk of the people must be educated to care for art so much that they would be willing to sacrifice something for it; that they would admit it to be worth pounds, shillings, and pence. They would only do that now by the democratic ideal being diffused among the people. The old "tyrant," anxious to keep the favour of the people he ruled over, would make the city magnificent. The old Mediæval aristocracy would build its cathedral at an expense which seemed to outsiders ruinous in order that it might vie with a neighbouring community, as Florence with Pisa or Siena. But it was the few who did this kind of thing then, and the few could easily act together. To-day it was the many who had to decide whether a thing was to be done or not.

He faced his duty as Chairman of the City Art Gallery Committee, and as a member of other committees doing similar work, in this mood, and with this idea: not merely architects, painters, sculptors and craftsmen must be trained in what were called the minor arts, but that the public must be trained to appreciate those arts, so that the artists themselves might have their chance. He hoped that the various institutions he had mentioned would be brought together under one control eventually; and so long as there was separate control, there should be harmony among them and not discord, and conferences and co-operation to prevent overlapping. This co-operation had been accomplished among the educational institutions of the city, such as the Grammar School, Owens College, the Technical School, and the School Board; and they were also working in the same direction in relation to these art institutions. In Manchester they had a very satisfactorily developed free-library system. The ramifications of the library system were being made to spread into every part of the city. The same thing must be done for art. They were only at the beginning of municipal work in that respect. It was only in 1882 that the Art Gallery was handed over to the Corporation. Since then the School of Art had been handed over. There might be some present who did not like municipalisation of different institutions; but it was Hobson's choice. There seemed to be no help for it; whatever any uncompromising or compromising individualist might say, the process was going on. The work might be better done, more systematically done, more thoroughly done, when it was under one public control. The people were much more likely to take an interest in what belonged to them and what they paid for.

They must have complete collections of art in every aspect, as complete as could be made in what he would call central galleries; and then, just as they had their central libraries and their branch libraries, they should have branch educational art-collections in different parts of the city. The tired citizen after his day's work was not ready to walk many miles or many hundred yards from his own door in the evening. Things must be brought close home to the people. The Art Museum in Ancoats, an experiment carried on by a number of enthusiasts, should have its counterpart eventually within easy reach of every fairly large company of adults and school-children, and all these different institutions should play into each other's hands. Art must become as much a necessity to Lancashire folk as music had become to them.

The only living art, the only art which really appealed to the great majority of people, was the art of music. In one sense they must get people to hum architecture, and to hum fine craftsmanship, in the same way that they hummed favourite tunes; until they could do that there seemed to be no hope of achieving any very considerable success.

He had had considerable experience, as a University Extension lecturer, in trying to do this work. It was very enjoyable work talking to people who had never cared for such things about the history and development of architecture, or about the relation of the art to their own English history, or the history of painting and their own English painters. It did not matter how mixed, how popular, an audience might be, if they once got a number of people together in a room and put before them by the help of the lantern representations of architecture, sculpture, and painting, they could be made to interest themselves in art. The living voice went a long way. Put a man in front of a picture and leave him to explain it to himself, he was hopelessly at sea. But get hold of the same man and talk to him about the picture, and he would soon understand it. He once gave a lecture on the Cathedral of St. Mark, Venice, to a large audience in the Hulme Town Hall, and a friend came to see him a day or so afterwards and said, "I think that lecture of yours did what you wanted it to do the other night. I went out behind a couple of working men of the ordinary stamp, and one of them said to the other, 'Well, I have often paid a shilling to go to the theatre, and not got so much for my money as this.'" He mentioned this incident to show that there was already a considerable demand for talk—one would not call it a lecture so much, but talk, intelligent, interesting talk about any kind of art. By degrees they hoped to create a much larger interest in the arts, and when that interest was aroused among any considerable part of the community the work of the architect, and the work of the painter, sculptor, and craftsman would be made very much pleasanter. Ford Madox Brown, it was said in Mr. Hueffer's recently published biography, left Manchester disheartened because he felt that he and his work were not popular. They wanted to put an end to the state of things which rendered such disheartenment possible. Interest the people in art, and the architect and sculptor and painter would have liberty to give play to the more artistic side of their nature the absence of which was now so often deplored.

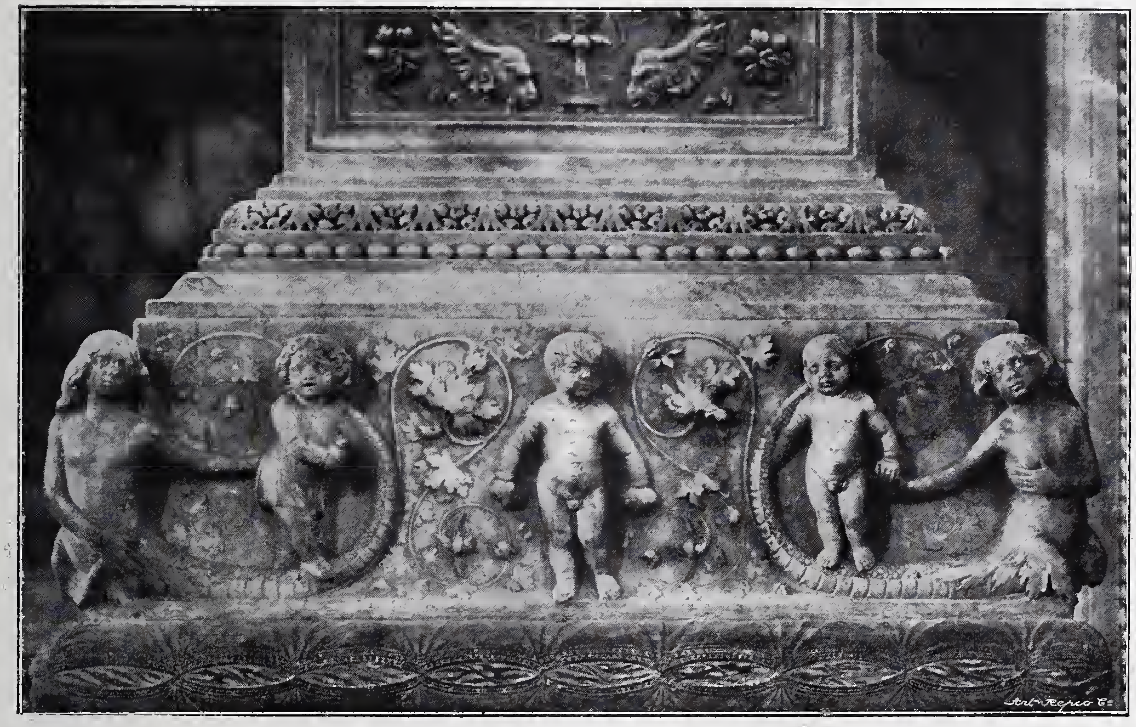
LEGAL.

The London Building Act—Fire-resisting Materials.

MCLACHLAN *v.* KEARLEY.

At the Mansion House, on January 12, before the Lord Mayor, Mr. C. F. Kearley, a builder in High Street, Kensington, was summoned under sections 151 and 153 of the London Building Act, 1894 (57 & 58 Vict. c. ccxiii.), for failing to comply with a notice of irregularity requiring certain omissions to be remedied in the building of premises at No. 60, Cheapside.—Mr. McLachlan, the district surveyor, who appeared in support of the complaint, said the builder was willing to do the work required, but that the architect and owner declined. The question was whether certain dormer windows on the roof of the premises, which were constructed of wood covered with lead, were combustible within the meaning of the Act; because, if so, the party-walls must be made twelve inches higher and wider on each side of them to comply with the Act, and that was what the notice served on the defendant required to be done.—Mr. Daldy, for the owner of the premises, contended that the dormers, being covered with lead, were not combustible, although the lead might be melted by fire. There was only a small proportion of wood, and his contention was that lead and glass were not combustible. "Fire-resisting material" is defined in section 5, subsection 36, and the second schedule to the Act, and does not include lead. The list of fire-resisting materials enumerated in the Act does not include lead.—The Lord Mayor, saying that it was a pity the Act was not more explicit, ordered that the notice should be complied with within a month, and granted 13*s.* costs.

The *Law Journal*, from which the foregoing report is taken, thinks that this decision is surely wrong. The section under which the surveyor alleged the builder to be in default (section 59) deals, not with "fire-resisting," but with "combustible" materials. Section 61 requires roofs to be covered with slates, tiles, *metal*, or other incombustible material, which tends to show that lead was regarded as "incombustible." Section 62 requires certain storeys on the roof to be of fire-resisting materials, but applies only to "domestic buildings." The Lord Mayor seems to have fallen into some confusion so far as relates to the lead, for it cannot be regarded as combustible within the decision of *Payne* v. *Wright*, 61 Law J. Rep. M.C. 7, although it is not "fire-resisting" or "fireproof"; but his decision can be sustained by holding that section 59 applies as to the woodwork of the dormer windows, although section 61 authorised the mode of construction adopted.



THE SCULPTOR'S ARCHITECTURE OF THE RENAISSANCE.

By Alfred Gilbert, R.A., *Hon. Associate.*

Read at the General Meeting of the Royal Institute of British Architects, Monday, 1st February 1897.

I FEEL it a presumption on my part to attempt to address this Meeting upon a subject which suggests so much, and upon which, alas! I am so incompetent to descant. You must forgive me, therefore, if my remarks convey to you merely suggestions for your own inquiry; and should I fail even in this attempt I hope you will more readily absolve me than you would have been disposed to do had I presumed to teach.

Could those great men whose names I shall presently possibly mention, and whose works we may discuss, hear all that may be said, they would certainly be filled with wonder and amazement at the pains they have inspired in us to reduce to theories the origins of their aims; and, though possibly grateful to us for our appreciation of their realisation, they might yet be somewhat chilled at the thought that their choicest gifts to us, the emanations of their artistic impulses, were found out, explained, and proclaimed to the world, for which they lived and worked, to delight as mere tricks of cunning begotten of forethought and nurtured of training. Ah, in the days when those great men lived, Art was young in her re-birth. Man, though as old as his age, was as yet unborn as knowing or professing more than his personal knowledge and power allowed to his ken. That was no age of assertion but of endeavour, yet not tentative but decided as the handwriting on the wall, and every bit as mystic and incomprehensible; and therefore it holds us, it enchants us, and it allures us to inquiry.

Why are we met here to-night to discuss the architecture of sculptors of a past age? Surely, it is because we recognise in certain works which hold us and puzzle us the handiwork of a class of individuals who, though cunning with their tools, were yet children in the use of the T square and set square of modern erudition; and it is possibly this which alarms us; and it is doubtless the apparent innocence on their part, of that which we have grown to deem indispensable, which astonishes us. That the results of their inspirations and labours under such conditions should fruit so splendidly as to create in us a desire for the study of their methods is refreshing, not to say restful, in these days of hurry and materialism. The very title of my discourse must be a wonder to most, an astonishment to many, and to not a few an anxiety. I confess myself one of this minority, for my anxiety to plead the cause of my revered predecessors in such a manner that their example may be followed fearlessly by my living brethren, and those to come after them, is such that I confidently shroud myself behind the mantle of the former, and humbly hold the train of the latter.

Sculptor-architect! Architect-sculptor! Where is the difference? Yet what a difference exists! Add the magic word "Renaissance," and the query is almost immediately answered. The sculptor-architect of that period is still alive; but the architect-sculptor—well, his existence is not really a matter for our inquiry. He probably existed, despite the fact that his efforts form less a phenomenon than those of his brother craftsman. How came this so-called sculptor-architect into existence? At the memorable period which is in our minds in the consideration of this subject, despite the desire to create a national architecture, there seems to have been but little attempt on the part of the architects of the period to realise anything beyond a free revival and imitation or adaptation of classic models. Examples were not lacking. The sculptors, though imbued with the same spirit, had fewer examples of the finest in their art; indeed, the best they had were of Græco-Roman production. The stories of Phidias were unknown to them, but the source from which this demi-god drew his inspirations was open to them daily in their studies of Nature in all her suggestiveness. The architects were hard at work as students of antiquity striving to resuscitate and imitate, while the sculptors were yearning to create; indeed, to give to future generations the true impress of their own lives and time, and not that of a remote age with which only their admiration and not their actual sympathies were in accord. Is it to be wondered at that under such conditions the sculptor of the period should long for licence and liberty and a larger field for his invention, and that he should venture to essay the provision of accompaniments to his own work, and then gradually, fascinated and delighted by the vision of possibilities which had been revealed to him in his endeavour in structural art, should be led by his ambition still further to attempt the creation of the very forms he had hitherto only been called upon to decorate; in short, to govern instead of being governed? This, to my mind (and I put it forward tentatively as a suggestion) constitutes the real origin of the most remarkable phase in the history of the Renaissance; and since the influence of it, spreading as it did through Europe, and inspiring such works as are to be found in all the great centres of Art, was manifestly so great, I venture to think that, could more attention to the study of these productions be fostered, and indeed introduced into the ordinary training of both architects and sculptors, much good would accrue, and that there would be some hope of the next generation placing themselves through their works in the independent position that we allow to those whom we now admire and have every inclination merely to imitate. Art is not imitation but creation, and above all it recognises no specialities. These are the wares of the pedlars of art, the purveyors of trifles. This was evidently realised by the men; and it is not to be wondered at that in an age of sumptuousness and magnificence such as was that of the Renaissance, when employment was not lacking, and encouragement was intoxicating, and striving to excel had become a passion, ambition to build palaces to adorn should have taken the place of the former contentment to ornament palaces built—in fact, that the sculptor should aspire to combine his own art with that of the architect, and place himself above the position of a journeyman decorator to a master adaptor, and, furthermore, to work upon lines founded upon his own perception of the spirit and traditions of the art of his predecessors strengthened by that intense craving to create for himself.

Thus far I have endeavoured to trace the possible origin of the existence of the sculptor-architect in order that you may be more readily prepared, knowing my theory of his coming into being, to follow me in my observations as to his work. I am by no means prepared to claim for it a striking pre-eminence when directed simply to the erection of edifices, though in those examples which we all know as the productions of sculptors there is an undoubted evidence of a hand and mind which have been trained for the practice of the plastic art. It is rather in the treatment of ornament when combined with purely architectural forms that I should feel inclined to favour the sculptor in his dual capacity. He had been used before his usurpation of freedom to design and execute ornament for buildings in which he had had no hand, and with which doubtless oftentimes he entertained no sympathy. He could realise that his ornament meant to his employer so much decoration, while to him it was the expression of an idea. This knowledge, then, peculiarly fitted the sculptor for the task he was about to undertake, and which, through the best examples, he has proved himself to have mastered. Another qualification which was his we must not overlook, for the outcome of it is so marked a feature in all the productions of the sculptor-architect of the Renaissance and the period immediately following—it is the training they usually received in the art of the goldsmith. To this, no doubt, must be attributed that extraordinary freedom of treatment, that abundance of invention, and that accuracy and delicacy of execution, to say nothing of the sense of colour and light and shade, and that appreciation of proportion, which characterise their work. Armed, then, on the one hand with the freedom thus obtained, and on the other with the knowledge of the practice of their particular craft, and fired by their new ambition, no wonder that the productions which have emanated from them have established their claim to special consideration and admiration.

I am quite aware that, strictly speaking, the subject of my Paper would appear to promise a critical review of the architectural part of the sculptor-architect's work; but it has seemed to me fit that this should rather be invited through discussion and the interchange of various views than given as a pronouncement from myself. I also feel that reference to any special work or particular artist is more likely to serve the object of such a gathering as this when made in that discussion which it has been the intention of my remarks entirely to promote. This will, I hope, explain satisfactorily the absence of diagrams and examples. I would still add a few words by way of emphasising a remark I ventured upon at the earlier part of my lecture, and that is, with regard to the desirability of the study by young architects and sculptors alike of the particular phase in the art of the Renaissance which is under our consideration. Such a study cannot fail to impress upon them the grandest lesson that can be learnt; that it is the duty that every artist owes to himself, his art, and his generation, that he should endeavour to place himself beyond the reproach of being the mere imitation of masters and styles of a past age; that he should go to the root of the flowers they planted, and learn how to graft upon the stem flowers as worthy and as beautiful as the original. It is the spirit of the age, not the letter, with which he should commune; and he should worship it and bind himself to the obligations that its great influence should place upon him, to endeavour to pass on to posterity the rich legacy, further enriched by the imprint of his own time and individual judgment.

Art is a very old republic, and to it has been given the grand secret, the elixir of life, that secret which for ever has been denied to man, its founder. Art is as young to-day as it was centuries ago. Its existence is a curious mystic one, at once retrospective and progressive. Its every movement forward is a reflection sent back from the mirror of the past; its life is a constant reflection backwards and forwards in the mirror of ages; its every act is a mere reflection of itself; its future is written in the magic word "tradition," and this word, with its mighty significance, will ever remain the "Sesame" of its every onward movement. It is then the spirit and tradition of Art's great principles which must govern us, that we may grasp the inspiration in our time and through our own individuality before we can hope to hand on, much less realise, the important legacy that we have from those who sought to be more than mere specialists, journeymen decorators, or master adaptors.

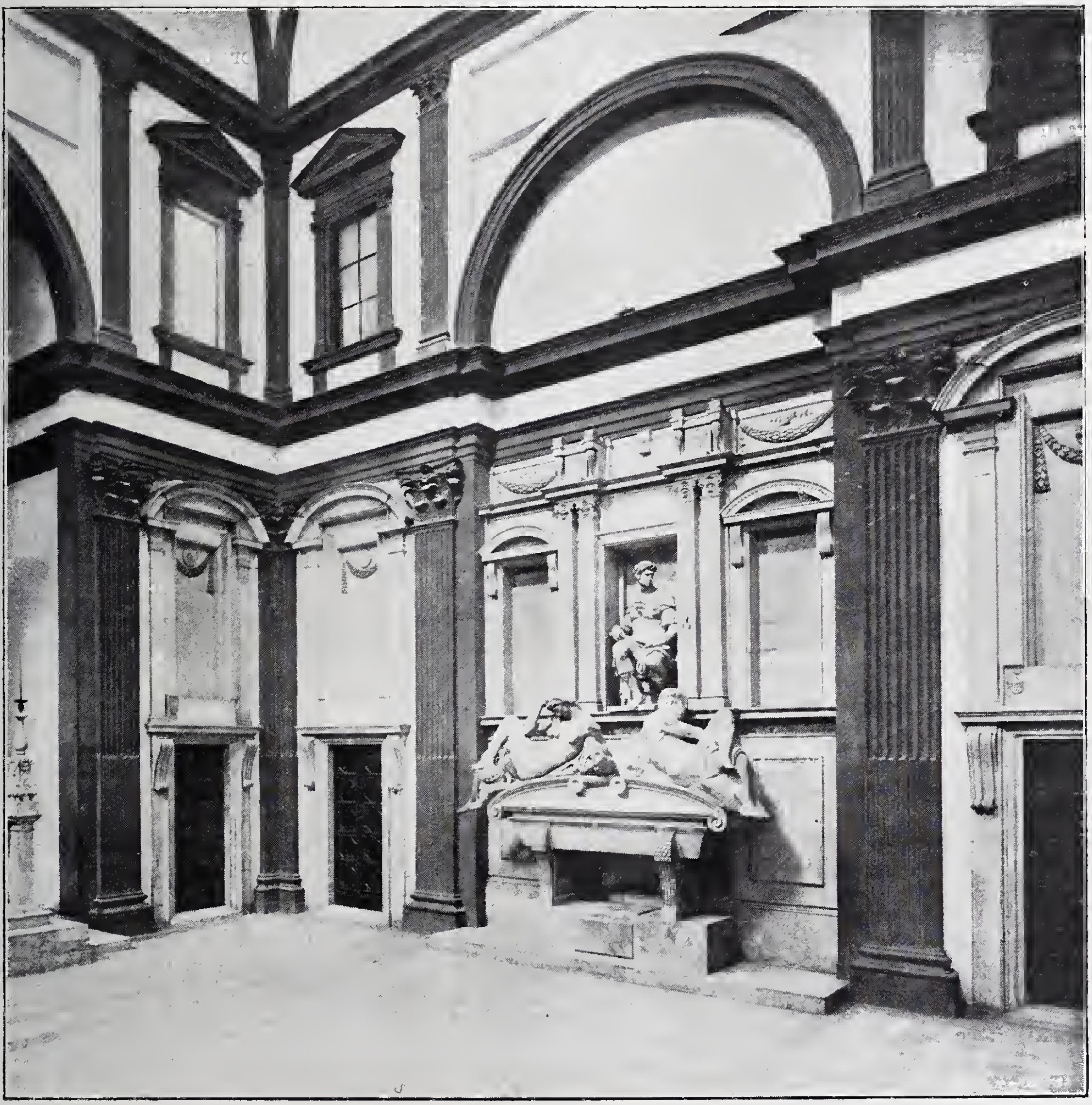
Referring to the brevity of his Paper, Mr. Gilbert added:—Gentlemen, I have miscalculated my time. I have miscalculated my would-be effort. I have counted only upon the hope that what I thought was more than it appears to be would inspire you to a discussion which, as I have already said, will be more faithful than any words of mine. I beg your pardon for letting you off so easily, and I pray you co-operate with me in helping me to make what I thought would have lasted much longer, last long to your profit.

DISCUSSION OF MR. GILBERT'S PAPER.

Mr. Alex. Graham, F.S.A., *Vice-President*, in the Chair.

Mr. ALMA TADEMA [*H.A.*], R.A., said he had listened most attentively to Mr. Gilbert's interesting Paper, full of theories of the highest aim, which made one dream of all the beauties of the Renaissance, and all that time of the revival of the antique, without giving one anything positive to say beyond admiration for those beautiful things in the light of which they were daily feasting, from which they daily profited in their lives. That time, which was so fruitful for mankind in every direction, was for Art of course an everlasting source of study, and to be brought to admire that which was worth admiring was always a reason for feeling full of gratitude. What the influence of the sculptor-architects and architect-sculptors had been was a thing he should like to see further developed in the modern practice of building. He should like to see the arts clasping hands more often together—the architect being a little more of a painter and a sculptor, and the painter and the sculptor being a little more of an architect. Then they would be more complete; and any effort that was made to direct them in that way was to be accepted gratefully. He should feel very proud if he might be allowed to propose a Vote of Thanks to the reader of this most interesting Paper.

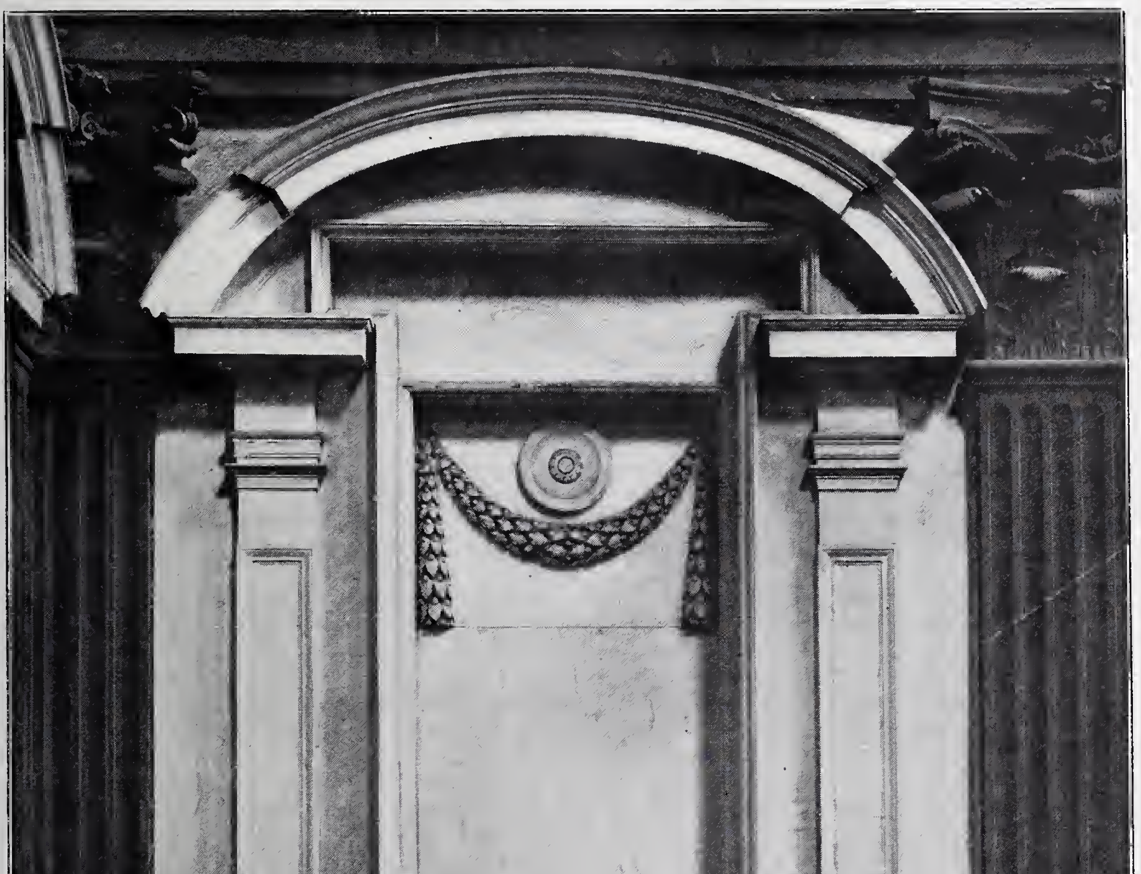
Mr. J. M. BRYDON [*F.*] hoped the Meeting would be favoured with the opinions of others than merely practising architects, who, as Mr. Gilbert observed, build quantity, and not always quality. Nevertheless, it seemed apparent that some progress had been made, when it was remembered that not many years ago the architecture of the Renaissance was treated as something to be scouted, and that anything approaching such work as they had in St. Paul's was considered far beneath what was done, say, in the thirteenth and fourteenth centuries. It was not so long since the Institute Meeting-room re-echoed with the cheers and applause that greeted Papers on Gothic architecture; and, he repeated, it showed real progress that they had come to look with lenient eyes on the work that came after it in England. Mr. Gilbert's Paper was very suggestive in many parts. It showed them the significance of the workings in men's minds of that great artistic wave that passed over Italy in the days of the Renaissance, and produced the works they all admired, and of which Mr. Gilbert, he was sure, must be an enthusiastic adorer. Mr. Gilbert's immediate purpose, he understood, was to speak to a certain extent of the architecture of sculptors; but it was very difficult to draw the line. Looking back upon the men who were the sculptors of the Renaissance as well as the architects, it became a question whether they did not come more within Mr. Alma Tadema's province—whether they were not architect-painters, because they were more or less painters as well as sculptors, and sculptors and painters as well as architects. Without going into specialities personally or particularly, there were one or two names that stood out as sculptor-architects. One, of course, was Michelangelo. He was everything; he was a giant; he was a great painter; he was a great sculptor; and he was a great architect. He would not say that he was the greatest architect of the Renaissance, but he was a great architect; and if they looked very closely at his work they would find one little distinguishing characteristic—namely, that he looked upon architecture from the sculptor's point of view, and naturally the decorative side obtained over the constructive side. Going to his early work, such as the Library of San Lorenzo and the Chapel of the Medici, in Florence, its characteristic would be found to be decorative work as opposed to the architect's more peculiar province of constructive work. Take the staircase of the Library of San Lorenzo [see page 169]. The Library was a magnificent building; the staircase was very sumptuous; but it did not require much architectural training to perceive that it was decorative work. He meant nothing derogatory to sculptor-architects in saying this; it arose probably from the training Mr. Gilbert referred to when he said that the sculptor working from decorative work had the ambition to create the work he was to decorate. To his thinking, they had the genesis of that in the staircase of the San Lorenzo Library—the steps of the staircase itself were very sumptuous. So far as he understood its history, the staircase was not quite as Michelangelo left it; the subsidiary flights of steps on each side the main flight were, he believed, of a later period. A glance at the walls of the room showed that the columns merely decorated the rooms. They were not constructive in any sense of the word; they were really in recesses in the wall, placed there for decorative purposes. The wall was not carried by the columns, and if the wall was continued would never miss them. The columns did not even supply the place of what might be called the



THE MEDICI CHAPEL, CHURCH OF SAN LORENZO, FLORENCE.

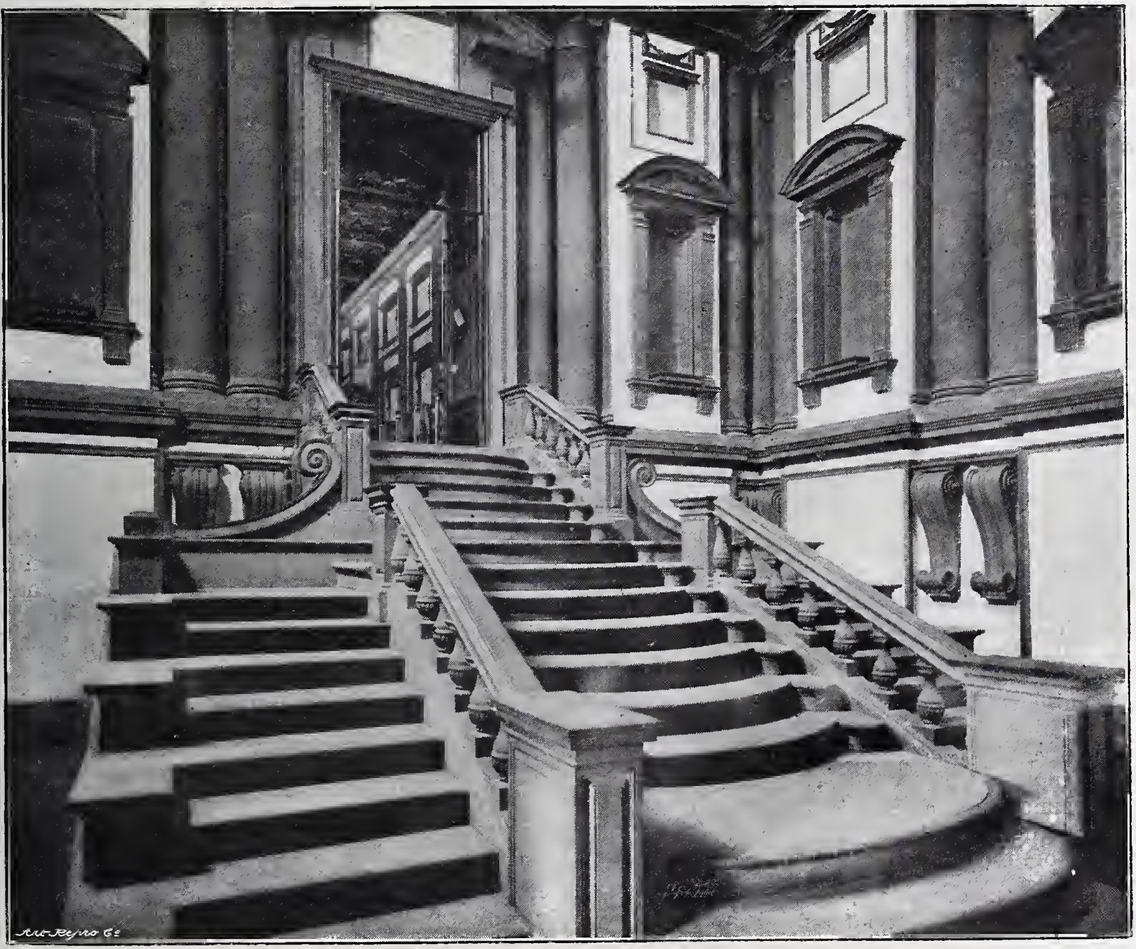
decorative pilasters, so dearly loved by Palladio and some of the later architects, because there, at any rate, the object was to support the entablature. But he only referred to that to illustrate the fact that the sculptor's idea of architecture, the idea upon which he worked, was the decorative side of architecture. Then, again, looking at another photograph, a detail of the Medici Chapel at Florence [p. 167] (and he only took that as an example of the work itself), all its parts would be found more or less decorative in the same sense that the greater parts were in being really decoration; he should say that it was built-up scene painting. He did not say so in any derogative sense, but merely for want of a better word to explain it. But apart from all that, Michelangelo was a great architect; and one of the things he did that redounded to his everlasting credit and honour was the saving of the façade of the Farnese Palace which he completed at Rome. That palace was originally designed by Saugallo, and so far as could be gathered from Sangallo's design, the top was to be completed by a series of pilasters; but dying before the work was finished, Michelangelo was called in to complete the building, which stood as one of the greatest monuments of the very best period of the Renaissance of the sixteenth century. He designed the top storey, and it must be admitted that, so far as the windows were concerned, they were rather weak; but one great thing he did was to design the magnificent cornice which pulled the building together. Now, if he had never done anything else, he thoroughly grasped what was required of him as an architect in putting on the enormous cornice to that building, which saved it from being a repetition of one storey upon another, and saved it from being commonplace. He brought the whole matter into harmony by the mere fact of designing that magnificent cornice. That was the work of a sculptor. It might be said that it was decorative work—and so it was; but it was also constructive work, because it was the finish of the whole, the support of the roof to a great extent; and therefore Michelangelo showed himself to be endowed with the great attributes of an architect in being able to clothe with beauty a feature that was absolutely utilitarian, the crowning edifice of the whole building. Then there was another architect who was also a sculptor, Sansovino—of much later date than Michelangelo. He was the designer of the Library of San Marco at Venice; and if one took the trouble to study it, it would be found that it was a sculptor's façade as against an architect's: the architect's façade was on the other side of the Piazza, which was purely constructive. Sansovino's Library was distinguished above all things by its sculpture; and the sculpture there was—he would not say obtruded, but it was brought into that decorative prominence which probably only a sculptor would have made of such importance. That came about in this way, that when he had to add a small storey over the main building of the Library, he did it by enlarging the frieze and putting very small windows into the frieze, united to each other by a band of sculptured ornament, as had been done to a certain extent in the Carlton Club in Pall Mall—again the characteristic of a sculptor, and Sansovino was a sculptor of considerable eminence, though not quite such a giant as Michelangelo. Now, he hoped they were getting back to the time when sculptors and architects felt that a building was not complete unless they worked together; and it seemed to him that the great future of their English sculptors—and he hoped of English architects—was in the decoration of English public buildings by sculptors and architects working together in harmony. He did not agree with Mr. Gilbert that the architects were all adaptors in the age of the Renaissance. They were not here to discuss the relative merits of the different architects who contributed to that vast movement which extended through, not only architecture, sculpture, and painting, but in goldsmith's work and everything else. It was a vast wave that passed over the whole world which had since hardly been equalled, and proved that there were some greater architects than sculptors; for instance, Bramante and Peruzzi, who were peculiarly architects without being sculptors. And without entering into controversy as to their relative merits, it would be found that they carried out the idea of architecture in the sense of its being a constructive art, as in the first instance it ought to be, more completely than the sculptor's. He seconded, with very great pleasure, the vote of thanks to Mr. Gilbert. It was always to them as architects the greatest privilege to have a sculptor and painter come to their Meetings and interchange views with them, because, after all, they were all artists in the sense of trying to do what they could for Art.

Mr. BERESFORD PITE [*F.*] supported very heartily the vote of thanks to Mr. Gilbert—in the first place, because he was regarded by some of them as in many ways a typical example of the combination of the architectural art with that of the sculptor, and under such circumstances they welcomed his presence and assistance in a special manner. The architect and the sculptor were in a particular sense in thes edays in need of each other's ideas. But he was afraid that any usefulness in this exchange would not be arrived at by the architect trying to combine the sculptor with his work, any more than it would have been if Michelangelo had called in an architect to assist him in the design of St. Peter's. He (Mr. Pite) suggested even to the present audience that such a collaboration would have resulted in not so satisfactory a result as that they already possessed.



DETAIL FROM THE MEDICI CHAPEL, FLORENCE

But the architect suffered from a complaint that the sculptor was free from; and the sculptor suffered, he was going to say, homœopathically from another complaint from which the architect did not suffer; and the conjunction of those two complaints might produce a very healthy state of design. The architect was fettered by a large number of facts; he was fettered by the lines that he drew, by the traditions received from his fathers; he was fettered by orders; he was fettered by plan; he was fettered by a number of constructive circumstances, problems, and difficulties upon which he had been bred, and which became part of the bone of his artistic soul; and he could not get free of his traditions. He would have to unlearn everything he had learned, and start again in a new atmosphere, if he was to think of his problems apart from his education. In the same way the sculptor suffered from the loss of these restrictions; the sculptor's art was too often merely—he was afraid of saying so much in the presence of such distinguished artists—an effort to create an ideal out of nothing, to create a statue of a mere abstract idea; for instance, a statue suggesting that a boy had just thrown a stone, or that a maiden is listening to a bird, or that Love is waiting in the moonlight, or something of that sort. Such ideas were played out; they had had their day, the public had enjoyed them, and sculptors had profited by them; but it seemed to him that the time had arrived when perhaps the introduction of a little architectural vaccine in the arms of the sculptor, and the infusion of a little sculptor's blood into the veins of the architect, might produce a mongrel sculptor-architect or architect-sculptor of a distinctly strong breed. Mr. Brydon had introduced Michelangelo to them as a great architect, though perhaps not the greatest architect of the Renaissance. He should very much like to sit down with Mr. Brydon over dinner one night, and ask who was the greatest architect of the Renaissance—he should like to know his name. [Mr. H. H. STATHAM: Brunelleschi.] Could Brunelleschi be separated altogether from the sculptor's surroundings and training; could his dome be compared successfully with that of Michelangelo, infinitely interesting and vastly beautiful though it be? But of the two, it seemed to him, St. Peter's would always be the greater. Or could any other name be taken, even that of Bramante, an architect to the backbone, but whose work was more in line with Wren's, and less with that of Michelangelo? Michelangelo found the greatest pleasure and delight in taking an architect's facts, and treating them as if he were treating the features of the human figure. He took the masses provided by the architect and threw them together, not with reference to construction or decoration, but with reference to the sculptor's idea of strength, to the sculptor's idea of vigour of line, to the sculptor's idea of delicacy and contrast of light and shade; and if the staircase of the Library of San Lorenzo [p. 169] were looked at, it would be found that he had placed vast masses which might be useful in supporting great buttresses inside an apartment, and the great contrast that those masses presented with the coupled columns in recesses between them was emphasised by exceedingly delicate and fine architrave mouldings that he placed on the surface of these masses. Would Mr. Brydon allow him to venture a suggestion with regard to the staircase itself? That staircase, it seemed to him, was from another hand altogether. He did not believe for a moment that it proceeded from the same mind. The man, he believed, who designed it was Vasari, a man more like one of their own Queen Anne men, putting that ogee curved line because he liked it—wretched thing that it was!—in the steps and the hand-rail, fancying, as poor Hogarth did, that there was an esoteric beauty resident in such a curved line which must lead to fine art. But there was nothing of that sort in Michelangelo's head: in his figure-work and in his architecture he scorned mere delicacies of line. Now, as architects, could not they take up with some amount of zeal sculptor's materials and tools for their work of design, finding pleasure in the massing of light and shade; in contrasting of strength and delicacy; in the treatment of features for their artistic elements rather than for their constructive work? This might sound very heretical, and it might be heretical; but he fancied that Wren had a great idea that all he wanted was mass and force when he piled up that mighty wall round his great dome, and formed that delightful colonnade around the drum externally which bore no constructional relation to the Cathedral itself, put there and divided into masses and recesses—he was going to say for sculptor's reasons—simply because he liked the light and dark, the contrast, and the play of light and shade. Passing from Michelangelo, and coming down to the present day, they found in the work of Alfred Stevens a wonderful illustration of the way another genius took up and dealt with architectural form, in such works as his Wellington Memorial. It was enough to make one's hair stand up to see its sweeping curved pediment springing off the very corner of the cornice. It was unconstructional, though it was traditional, and the way in which he maintained the tradition was beautiful; the effect, giving a springing virility to the design, was marvellous. But this had been achieved by a sculptor's process of thought, and not by that of a constructor. If a constructor had built it up, he would have put, without any doubt, a nice arch between the two extremities, to pull the whole thing together, and make it look very much more satisfactory to the district surveyor than it did now! But there was a step further that they could go, and he ventured the suggestion that some of the most successful architectural buildings in London had not been erected by architects. He wished they could say these buildings had been erected by sculptors; but they could come very near that mark. He thought it would be generally admitted—it was a matter he had referred to before, but it was particularly in line with the present subject—that the Science School at South Kensington was one of the most successful buildings of the period: there was in it great constructive power, breadth of design, originality, and exceeding beauty of detail. Now, no one could say out of what office that design came; that design could not be tacked on to any particular school of English architectural tradition; it was evolved and erected quite apart from the Gothic revival, and quite apart from the traditional classic school of the time; it came out of the furnace of Stevens's studio, and it stood as a wonderful instance of a beautiful building in the middle of a number of very architectural and very unarchitectural buildings. In these days, when they had searched antiquity and had worn it out, when they had tried to attain to the secrets of Greek art, even by the mysterious road of mathematics, and when they had exhausted all that archæology and ecclesiology could provide for them out of the Middle Ages, and when they had come down to stripping off ideal art and leaving only brickwork, letting architecture confine itself to the door-knocker and such like things—in this condition, to have the door opened to them, as successfully as Mr. Gilbert had done, to the consideration of the higher aims that actuated the sculptors—the great sculptors of the Renaissance—in achieving works of beauty in architectural mass and form, in wall, roof, and dome, and with the same ideas in detail which directed the greatest sculptor the world had ever seen in producing his greatest works, he ventured to think they had some little hope left to them; and if architects could rise to the occasion and bend



STAIRCASE OF THE LIBRARY OF SAN LORENZO, FLORENCE.

their studies to the secrets of the real beauty achieved by these sculptor-architects, they would have a path before them they would do well to walk in.

Mr. H. H. STATHAM [*F.*] said he would like to explain why he had responded Brunelleschi when Mr. Pite asked them to say whom they called the great architect of the Renaissance. It was from his conviction that the beginning of an architect was one who knew how to build. Michelangelo did not know how to build a dome, and the consequence was that a chain had to be put round his dome afterwards, because it showed symptoms of cracking; and Brunelleschi put the chain in the first instance on the very same part of the dome, showing that he knew what was the constructive effect of strain upon a drum. Therefore he considered that Brunelleschi had the beginning of an architect in him more than Michelangelo had. Some one had asked, What would Michelangelo have gained, or what would they have lost, if he had called in an architect to help him? He (Mr. Statham) quite disagreed—he thought that was just what he wanted. An architect would have told him two things: first, that they could not give scale to a building by making all the parts colossal; instead of that they must have multiplicity of parts; and secondly, an architect would have told him how to build a dome without cracking; and those were two points in favour of the architect.

Colonel LENOX PRENDERGAST [*H.A.*] confessed that he had been brought to the Meeting a little under false pretences. He was in hopes, to begin with, that he would have been told to what period of the Renaissance these remarks were directed; secondly, he had an idea that they should have explained to them a matter of very great interest, the sculpture-architecture of the Quattrocento period. They had had a most interesting discussion in two directions about the later time; let them for a moment pass over the even earlier period than that, and go back to the dawn of the Renaissance, when the sculptor-architects seemed to have covered every square yard of their buildings with sculpture of the most refined kind. It was in reference to that particular sculpture that he hoped to have been enlightened upon. No one who travelled in Italy, and studied those magnificent and gem-like works, could do otherwise than feel that there was a refinement about those men, a knowledge and a culture about them, to which at present they had not the key; and he had come to the Meeting hoping that their thoughts would have been led in that direction by one so capable of explaining to them the relative share undertaken in the sculpturesque architecture of the Early Renaissance by the architect and the sculptor.

Mr. H. L. FLORENCE [*F.*] said that it had struck him during the reading of Mr. Gilbert's very suggestive Paper that there was a great analogy between architecture and sculpture in a building, with poetry and prose in the formation of a language, that one, as the other, gained from the association of ideas; that as prose was ennobled by the words, and frequently the rhythm, of poetry, so architecture in the periods to which Mr. Gilbert referred gained certainly by the refining and elevating influence of sculpture. But that showed that one of the two must always be the leader. If it was to be poetry, the poetry must be left to itself; and if prose was to be written, it must be free from the too great licence of poetry. The same had proved true in the history of architecture and sculpture. In the early days the lines of the sculptor and the general disposition and ideas were purely architectural; the sculpture was used to bring out the more prominent features, to add refinement to certain parts, to mould the outlines into more plastic forms, and to make it more generally interesting and pleasing to the observer; but in later times, not to mention those great architects and sculptors who had already been referred to, they came to the period when the influence of sculpture upon architecture was more prominent, and to a great extent it was a deterioration; it was applied as a decoration, and less by degrees to form. He might perhaps allude to Bernini as an example. Bernini was himself a great artist; he was good in an imaginative way both in his architecture and his sculpture, and he was successful in combining them and in imparting new ideas into both; but he was the commencement of the period that led to great deterioration. His immediate successor, Boromini, carried all these to too great an extent: he was not content with the simple lines of leading architecture, but imparted into them sculptural and fantastic types which led to combinations of broken pediments, twisting of columns, &c., which had cast a reflection upon that period of architecture ever since. To show the influence of the painter's art upon architecture, they must refer to an Englishman, Sir John Vanbrugh. He was an architect of very great merit, but he proceeded in his lines of design more in the way of a painter's combination of masses of lights and shades; he gave way perhaps to too great an idea of rhythm to be entirely successful as an architect. Blenheim, he thought, both in its plan and in its combination, showed that very plainly: although it might be taken as lumpy and heavy as an edifice, when it came to be studied in detail there was a great deal of thought, both in the plan and in the grouping of the various blocks of buildings. In the present day they did not often have such opportunities of bringing in contrast light and shade—their buildings in modern cities were more frequently in regular masses—they had not the opportunity of projecting wings, recesses, and curved features, except in those unhappy corners of streets which occurred so frequently; and a return to a simple style of architecture such as was practised by the great architects who had been referred to of the more early period of the Renaissance would show them all, by the study of their works, that they had much yet to learn from the architect-sculptors of those days.

Mr. OWEN FLEMING [*A.*] said one wanted to get very clear in one's mind what Mr. Gilbert meant by sculptor's architecture. Would not Mr. Gilbert look upon the spire of Bow Church in Cheapside as a fine specimen of sculptor's architecture? It was a beautifully modelled spire, but it had no figures, and nothing that one ordinarily associated with sculpture, no caryatides or anything of the kind; it was simply a beautifully modelled spire. And if that were Mr. Gilbert's view, then Mr. Pite's able address would almost mark an epoch in the development of the art of architecture. Should they not look at buildings from what might almost be termed the plastic point of view? Should they not, in fact, learn to model their buildings and to think of them as one great whole? That idea led on to the reflection as to whether they were training the younger members quite in the right direction. When one first became an architect, one had little idea of what architecture was. There were the Examinations to be worked up for; Fergusson to be gone through; and one's head turned into a museum, a storehouse for keeping all those little features in little cells, to be brought out as occasion offered, and applied one here and one there. From one series of cells was produced a Gothic building, and from another series of cells a Classic building. That went on for years; and then, after the final examination was passed, one went away and wondered whether the whole system was not a great mistake, and whether one ought not to begin again and really study architecture.

Mr. G. A. T. MIDDLETON [*A.*] said that there was one idea that he desired to submit to the Meeting, viz., that all the greatest architectural periods seemed to have been periods when architecture and sculpture had been very closely connected—he referred to the great Grecian period, the great early Gothic period, and the great Italian Renaissance period. That alone seemed a very important thing to think of. But while in the Italian Renaissance period the sculptors were to a great extent the architects, that did not seem to have been the case in the other two great periods. The Parthenon, the greatest building the world had seen, was the work of one architect embellished by another sculptor—a wonderfully great architect and a wonderfully great sculptor—but there were two men employed, two minds at work. Was it necessary, therefore, that a building should be designed and embellished by the same hand? It had been said that that was almost a necessity for a good combination of architecture and sculpture; yet that was not the case in the very greatest example that the world had seen. So, too, in the Gothic days, were the same men the architects and the sculptors? That they did not really know; but it hardly seemed so. In the Renaissance days they knew that to a very large extent the sculptors in many instances were architects; but there were also architects who were architects, and nothing but architects. Many started as sculptors and goldsmiths, but became architects, and architects only, afterwards; others were painters and architects, but not sculptors; others, like Sangallo, were architects only. It was not necessary that the very greatest men should be both sculptors and architects, and he ventured to ask, Is it necessary now? Great buildings could be produced by architects only; greater buildings perhaps by architects who worked in combination with sculptors; it was possible great buildings also by sculptors who worked as architects. But they as architects would submit that at least architects were capable of producing the greatest work. One of the greatest modern works in London at the present time, the Accountants' Institute, was the work of a great architect in combination with a great sculptor—two minds again at work. Was it necessary that there should be only one?

The CHAIRMAN said that Mr. Gilbert had opened up what one might call the higher ranges of thought in this matter, and it was for them to apply them in their own practice. It was rather difficult to define what a sculptor-architect is, and also what an architect-sculptor is. In olden times it would be difficult to say where the architect left off and where the sculptor came in; but in modern times they knew exactly where the architect had finished and where the sculptor began. That, perhaps, was rather to be regretted; it would be much better if architect and sculptor combined in all cases, where their joint artistic efforts could be brought to bear upon any monumental work. It was seldom indeed that one could find completeness in the work of the architect and the sculptor in any building whatever—perhaps there were not half a dozen in the whole of London that one could point to. He might mention one, viz., the London University, in Burlington Gardens, which he believed was completed from beginning to end exactly as it was intended, and where every piece of sculpture was all ready to put in its place; but that was owing to the pertinacity of Sir James Pennethorne, who insisted that the building should be complete. Mr. Brydon had made some interesting remarks with regard to the great men of the Renaissance: such names as Michelangelo, Sansovino, and others came up to one, he might almost say, like recollected music. They were the standposts to which artists clung, and to which all who came after would cling as their guides in artistic life. What Mr. Brydon said with regard to Sansovino most architects would concur in, that any expert in architecture could tell exactly at a glance in his buildings which was the sculptor's work and which the architect's, and it did not take much to test that, because all architects were constructors, and architecture was necessarily a constructive art. That was a matter that sculptors did not always bear in mind—they did not seem to understand that architecture was essentially the art of construction.

MR. ALFRED GILBERT, R.A.—Gentlemen, Had I had the pleasure of listening to what has constituted my success where I felt I had failed, that is, in the promotion of a discussion which I could have wished had been longer—had I, I repeat, had the privilege of listening to all those erudite expressions from the various learned speakers, I should then have been able to present you with such a lecture that you would have one by one gone from the room and left me standing. With your permission, Mr. Chairman, I may, though briefly, perhaps, reply to one or two things, if not actually in the form of reply, still in the form of acknowledgment where I am beaten, where I have been misunderstood, and where I have had praise unexpected. You have spoken very charmingly in recognition of the extremely feeble—I say feeble, I meant it for nothing else but the sugar to catch the fly—remarks I made. My flies have been caught, and you, Mr. Chairman, put me in the position of the spider who, had he time at his disposal, might still eat the fly. But he has not. Sir, you have spoken one thing which struck, perhaps, more forcibly than any remark I have heard this evening. You have spoken with not unmixed wonder—at least, that is how your words came to me—of the fact that at the London University the whole was conceived and carried out as conceived. I have only one little tentative question or suggestion to put, and that is: Might it not have been better that a second thought should have been entertained before those—I was going to call them finials, I will call them statues (because they were intended for statues), were allowed to stand as the continuation of columns, and do nothing except look ugly? You said something also about construction connected with sculpture. Now, without wishing to be dogmatic, I say that the very essence of the training of the sculptor is really more with a view to imbuing him with a sense and a real appreciation of the necessity of the knowledge of structure, but it is in a different form from that understood by the architect. I spoke perhaps you may think slightingly (I did not mean to be slighting) of the T square and the set square. Now we know, that the construction of a building, after all, is contained in very little, but that the construction of the human figure is a complex thing, and had I the power to put it to you I think I might show you something about that. I would like to contrast the structure of the human figure with that part of the structure in architecture which is known as thrust and compensation of balance. It really is that. Therefore the sculptor's task is to master structure and construction in that to which he is supposed to confine himself, and of which I shall have something to say presently. The making merely of the human figure is no slight task, and in fact the methods by which the sculptor arrives at his training are much more complicated than are those which an architect has to go through to learn his construction; he has, so to speak, a log-book. But the sculptor has no log-book, he has nothing set down for him; and I take it that with a painter it is the same. You know that if you build a wall of a certain thickness and a certain height, and you have to carry a certain weight, you can work it out—or rather you can have a book in which it is worked out for you. We cannot do that. If we want to make a figure stand on its legs we have one principle—plumb. We can make any amount of undulating line we like where you have to depend upon your plan (which is the beginning) for your undulating lines. We can change our lines; we can begin at the top and go down; you must begin at the bottom and go up. That is the difference of construction. Mr. Chairman, I have dealt with you. You, Colonel Prendergast, in replying to my invitation to enter into the discussion, have made remarks so pertinent that I feel bound to answer you next. You have expressed just what I expected to be expressed, and I am only astonished that I should not have had more expressions the same as your own; but you have asked me why I gave you no information about the statues of the Quattrocento. I never bargained for the Quattrocento; my bargain was for the Renaissance and the later period; but I did not bargain to give information. My idea was merely to ask you to impart information one to the other, and I am sorry to find that those who know much better than I do—sculptor though you dub me, sculptor though I fain would be—cannot enlighten us and me more about what sculpture should be, and what its relation should be to architecture. I am grateful to you, Sir, and I hope you will forgive me for my shortcomings in not supplying you with the information and appearing here under false pretences. What you, Mr. Brydon, have said has much impressed itself upon my mind; but I think I may take it for commendation rather than condemnation, and therefore I have nothing to write off. But I think it was you, Mr. Pite, who said that the modern aim of sculptors was to represent the old-fashioned form, or you implied it. Well, I beg to say that that is not so, that it should not be so; and I would say also that the very words I used in my lecture at all events the object of the words I used certainly was to advocate the breaking loose from that idea—that the sculptor should not be considered by the architects, or by anybody, as merely a maker of what the Italians of whom we have heard to-night would have called *pupazzi.* He is not, and those men were not. As for Michelangelo and his structures and his domes, I purposely left aside the mention of the name of so great a man as he. Michelangelo might have made faults, but his great so-called imitator also made them. They were both sculptor-architects, for I claim for Wren the distinction (I call it a distinction) of being one of the very greatest English representatives of what I call the sculptor-architect. He was a modeller of things; and (Shade of Michelangelo, forgive me!) I cannot say that Wren was second to the great God I have been taught to worship. The matter of scale was better understood by Wren than it was by Michelangelo. Michelangelo in his belfry windows of St. Peter's made apertures that St. Paul's might be expected to pass through; and when you see a man (as I have seen him) standing in one of them you are then suddenly confronted with the terrible reflection, "Why did he not make that window a tenth part of the size, or that man come out of the roof?" Go to St. Paul's, and look at that "non-constructive," if you like to call it so, that "do-nothing" colonnade; but it is plastic, it is beautiful. It may be carrying nothing. Bow Church has a colonnade that carries nothing. There are many examples; there is not a single one I know of of Wren's that is not a pure and simple specimen of what might be called the sculptor-architect's work. He was a modeller of things—not a builder, not a bricklayer, not a mason, but a great moulder, a great plastic artist, an enormous giant that we have not seen the like of since in England. I would by this accentuate the plea that I ventured to set forth that architects should study sculpture, and sculptors should study architecture; then we might learn to appreciate the force which that great man has shown us. Stevens's Wellington Monument has been alluded to. There is no one who admires him more than I—not only because he was a single-hearted worshipper at the shrine of all that was beautiful, but because he was a man who tried to emulate everything that was fine; a man who came at a bad time (like another great man who was lost just before him, and like many men who began their life at that time), on the top of a rotten crested wave. I do not consider that we see Stevens at his best in the Wellington Monument. His greatest effort was in those works which distinguish the sculptor-architects, as I have called them; this was that power of design, of realising an idea in the design, not merely a mass of tracery, but every line meaning something. He is like the great Bernini whom we have heard much abused, in that his ornamental designs were full of meaning. He took from Bernini traditions, but he did not copy Bernini, because he was essentially Stevens. As to Boromini, I am sorry that my enthusiasm does not carry me further than alluding to him as an example of decorative work pure and simple—the rococo, the baroco, the curly, the unmeaning. I had not the slightest intention of conveying that building and sculpture should be necessarily the work of one hand; that we know is an impossibility; but what I wanted in my quasi-sermon, if I may say so, to impress was that it would not be at all a bad or an unbeneficial thing for those who are learning to walk in their respective arts, whether they be sculptors, or whether they be architects, if they would each one study the art of the other—that they may know when they have to erect a building that it is far better to employ a man who is trained as an artist to help the architect to carry out his work, than to call in, forsooth, the purveyor, who will supply at so much a foot, and through the hands of imported labour, that which he can get cheaper, but the interests of the maker of which he cannot enlist further than the Saturday night's consideration. Would it not be better that the architect should learn that it is possible to get the sympathy of his brother artist at home if he treat him as such, and give encouragement to the would-be sculptor architect to make beautiful things? There are men who may be young in their art, but who are quite as capable as the hired labourer of the purveyor and pedlar of trifles. It is a plea I would set up to architects—though it may be I cannot follow it—it is a plea not for myself, for I could not work under those conditions; but there are hundreds, I may say, of youths who could make Gothic statues if you want Gothic statues, and could make recumbent bishops if you want recumbent bishops, and could make all these things; and what I had in my mind was that the architect of to-day does not work, and does not seek to work, with the sculptor, and consequently the sculptor says, "*Buona notte.*" Gentlemen, it has come to my turn to wish you the same.

9, Conduit Street, London, W., *4th February* 1897.

CHRONICLE.

THE SEVENTH GENERAL MEETING.

Mr. Gilbert's Paper.

In spite of the bad weather last Monday evening, there was a good gathering of members and their friends at the Institute to hear Mr. Gilbert's Paper on "The Sculptor's Architecture of the Renaissance." The President, Professor Aitchison, A.R.A., was unable to attend, this being the evening for his third lecture at the Royal Academy on "The Advancement of Architecture, chiefly in relation to Gothic Architecture." His place was filled by one of the Vice-Presidents, Mr. Alex. Graham, F.S.A. Mr. Gilbert met with a very cordial reception. He has a charming delivery, and his lecture and subsequent remarks were enthusiastically applauded. As the Chairman remarked when inviting discussion, the lecture had one defect: it was perhaps too brief. The reason of this the author explains in the remarks he added at the conclusion of the Paper [p. 164]. Unhappily, too, pressing engagements had prevented his committing the lecture to writing in time to be printed before delivery, and the usual practice of distributing advance copies among those likely to take part in the discussion could not be followed. So, probably, there were fewer speakers than might otherwise have been the case.

Peterborough Cathedral.

By the courtesy of the Dean of Peterborough, at the instance of the President, several members of the Institute are to be accorded the privilege of visiting the Cathedral next Saturday, and inspecting that portion of the fabric the authorities have decided to restore. The party, which, by the Dean's desire, is limited to thirty, is already made up, and includes several members of the Council. Arrangements for the visit have had to be rapidly pushed forward, and an early date fixed, as preparations for the proposed work are now in active progress. With regard to the agitation against the scheme of restoration decided upon by the Dean and Chapter, the Chairman informed the Meeting on Monday that the Council had given the subject full consideration, and their opinion was unanimous that it would be inexpedient for the Institute to take any public action in the matter. The announcement met with the evident approval of the Meeting.

The Royal Gold Medal 1897.

The nominee of the Council in the matter of the Royal Gold Medal for the current year is Mynheer P. J. H. Cuypers [*Hon. Corr. M.*], Architect to the National Museum, Amsterdam, and on Monday the Chairman announced to the Meeting that the Council proposed to submit his name to Her Majesty the Queen as a fit recipient of that honour for his executed works as an architect. The day of election is Monday, 1st prox.; and any twelve Fellows, desiring to substitute any other name, should deliver in writing to the Acting Secretary the name they propose to substitute prior to the 13th inst. A selection of photographs representative of Mynheer Cuypers' executed work is open to the inspection of members at the Institute, and was laid on the table at Monday's Meeting. The Chairman, in making the announcement, observed that the Council were of opinion that the distinction this year should be conferred on a foreign practising architect. Mynheer Cuypers, he continued, was well known as the leader among the architects of Holland, and a glance at the list of his buildings showed a long and distinguished career, extending over nearly fifty years. His churches were to be seen in every part of the Netherlands. The last Continental architect to receive the Medal was the late César Daly, in the year 1892.

Architects and Re-instatement of Buildings after Fire.

The Practice Standing Committee report to the Council as follows:—

Representations having been made to the Council as to the unsatisfactory position of the question of Architects' Fees on the re-instatement of buildings after fires, and the alleged difficulties raised by some insurance companies in respect thereto, the matter was remitted to the Practice Standing Committee to be dealt with.

Negotiations ensued with the principal insurance companies through their Association, and an endeavour was made to get them collectively to agree to a clause in the general form of policy expressly stating the right of a policy-holder to charge architects' fees as an item in his claim.

The Association did not see their way to such action, and it is not of any use to detail the various points raised.

The Committee, however, think it is desirable to record that the Imperial Insurance Company, of 1, Old Broad Street, London, have, by a letter from their general manager, laid down the following principles as governing their action:—

1. The Company does not undertake to pay as part of the loss an architect's fees when the amount and circumstances of the loss do not necessitate the employment of an architect.

2. If the engagement of an architect in the reinstatement of a building is proved to be necessary, such fees form part of the loss which the insured is entitled to recover.

The Committee believe that these principles are sound, and represent a safe rule which may be acted on in general practice. It will be noted that in Clause 2 the engagement of an architect must be "proved to be necessary"; but as a rule of practice the Committee are of opinion that in the class of buildings with which architects have usually to do this necessity would be generally recognised without question, and that the *bona fide* engagement of an architect would itself constitute at least *prima facie* evidence of the necessity. It will be noted that Clause No. 1 is in no way inconsistent with this view. That clause has reference to small claims and to cases where the damage is of such a nature that it can readily be repaired without professional aid.

It has been suggested by some architects and others that architects' fees should be insured by a separate item in the policy. This is not desirable in many ways, and such a rule would tend to undermine or weaken the rights of the insured as laid down in Clause No. 2, and would add to the premium without giving any corresponding advantage.

William Eden Nesfield's Drawings.

The two large folio volumes containing the collection of drawings and sketches, the work of the late William Eden Nesfield, now accessible to members in the Reference Library, rank among the Institute's most desirable acquisitions of recent years in this particular field of art. The drawings are valuable, not only as the productions of an accomplished draughtsman, but as showing the range of studies covered by the artist in order to perfect his natural talents for design and draughtsmanship. The Institute owes their possession to the personal exertions of Mr. Phenè Spiers, who, seeing the drawings advertised for sale in the lists of a second-hand book-dealer, collected subscriptions for their purchase among members of the Council and personal friends of the deceased architect. The money raised, amounting to over £30, sufficed not only for the purchase of the drawings, but also to provide the handsome morocco bindings in which they have since been encased. The Institute is further indebted to Mr. Spiers for the pains he has taken to prepare the volumes for the binder, the whole of the drawings and sketches having to be removed from their original mounts—a delicate operation, requiring the greatest care, and involving an expenditure of much time and labour. A complete description of the drawings, with a brief sketch of Nesfield's student career, appeared in a Paper by Mr. Spiers in the JOURNAL, Vol. II., pp. 605-11, which members inspecting the drawings should not fail to consult. The Paper is illustrated by a pencil sketch, dated 17th October 1862, of the Earl of Leicester's "Hospice," Warwick, given in facsimile, which, as far as the process of reproduction admits, affords some idea of the delicacy of touch and refinement of feeling which characterised all Nesfield's work.

The Prize Drawings in the Provinces.

The premiated drawings selected for exhibition in the provinces during the coming months under the auspices of the Allied Societies comprise twenty-one strainers, made up as follows:—

The Royal Institute Silver Medal (*Measured Drawings*).—Details of Melrose Abbey (2 strainers), by Mr. F. J. Wass (under device Fleur-de-Lys within circle), awarded the Medal and Ten Guineas.

The Soane Medallion (Subject: Design for a Provincial Market Hall).—Perspective, Details, and Plan (3 strainers), by Mr. J. A. R. Inglis [*A.*], awarded the Medallion and £100.—Perspective and Details (2 strainers) by Mr. James A. Swan, awarded a Medal of Merit.—Perspective (1 strainer), by Mr. C. H. Holden, awarded a Certificate of Hon. Mention.

The Pugin Studentship.—Measured Drawings and Sketches (3 strainers), by Mr. Wm. Haywood, awarded Medal and £40.—Measured Drawings and Sketches (2 strainers) by Mr. C. de Gruchy, awarded a Medal of Merit.—Sketches of Notre-Dame, Bruges, and the Skipper's House, Ghent (2 strainers), by Mr. J. E. Swan, awarded a Medal of Merit.—Pencil Sketches (1 strainer), by Mr. W. E. Dobson, awarded a Certificate of Hon. Mention.

The Owen Jones Studentship.—Mosaics and Coloured Studies (2 strainers), by Mr. A. E. Henderson, awarded Certificate and £50.

The Aldwinckle Studentship.—Coloured Studies (2 strainers), by Mr. A. T. Griffith, awarded Certificate and £50.

The Grissell Medal (Subject: Design for a Bay of a Church).—Drawings (1 strainer), by Mr. S. K. Greenslade [*A.*], awarded the Medal and £10. 10*s.*

The collection has been further augmented by twenty-seven sheets of Studies submitted by candidates for admission to the Institute Examinations 1896. These include 7 sheets by Mr. H. L. Anderson for the Intermediate Examination; and 5 sheets respectively by Messrs. A. G. Bond and G. W. Fraser, and 8 sheets by Mr. C. S. F. Palmer [*Arthur Cates Prizeman* Dec. 1896] for the Final Examination.

The drawings will be exhibited at Birmingham from the 8th to the 20th inst.; and thence will proceed to Leicester, Nottingham, Sheffield, and the various other Allied centres, reaching Exeter, the last place on the list, towards the end of May.

Books received for Review.

The Cathedral Church of Canterbury: A Description of its Fabric, and a Brief History of the Archiepiscopal See. With Illustrations. "Bell's Cathedral Series." Edited by Gleeson White. 8o Lond. 1896. [George Bell & Sons, 4, 5, and 6, York Street, Covent Garden.]

The Cathedral Church at Salisbury: A Description of its Fabric and a Brief History of the See of Sarum. With 32 illustrations. "Bell's Cathedral Series." Edited by Gleeson White. 8o. Lond. 1896. [George Bell & Sons, 4, 5, and 6, York Street, Covent Garden.]

The Ruined Cities of Ceylon. By Henry W. Cave, M.A., Queen's College, Oxford. Illustrated by Photographs taken by the Author in the year 1896. 4o. Lond. 1897. Messrs. Sampson Low, Marston, & Co., Ltd., St. Dunstan's House, Fetter Lane, Fleet Street.]

A Handbook for Travellers in Lower and Upper Egypt, including Descriptions of the Course of the Nile through Egypt and Nubia, Alexandria, Cairo, the Pyramids, Thebes, the First and Second Cataracts, Dongola, the Suez Canal, the Peninsula of Mount Sinai, the Oases, the Fayyûm, &c. Ninth Edition, re-written. Maps, Plans, &c. Edited by Mary Brodrick, Ph.D., with the assistance of Professor Sayce and Captain H. G. Lyons, R.E. Sm. 8o. Lond. 1896. [John Murray, Albemarle Street.]

Additions to the Library.

In *Ventilation and Heating*, by Dr. John S. Billings, an addition which may be recommended to the attention of readers has been made to the Reference Library. Dr. Billings, an eminent American authority, in his very complete and somewhat bulky volume, investigates the history and literature of ventilation and heating, its scientific aspects, and the particular systems which may be adopted. The book was published in 1893, and down to that time probably no notable example of heating and ventilation had escaped the attention of Dr. Billings, who gives many excellent plans of all classes of building and other illustrations, all of great practical use [London & New York: The Engineering Record].

Readers who use the Loan Collection will be glad to hear that, owing to the courtesy of the author, Mr. William J. Anderson [*A.*], a copy of his recently published work, *The Architecture of the Renaissance in Italy* (see review by Colonel Prendergast, p. 177), has been added to this, as well as to the Reference Department of the Library [London: B. T. Batsford].

La Catedral de Palencia, a monograph, possessing unfortunately no illustrations of this ornate Gothic building, has been received from the author, Don Juan Acapito y Revilla, architect, who supplies an historical and archæological account of the cathedral, a bibliography, &c. [Palencia: Abundio Z. Menédez].

The *Annales* de la Société d'Archéologie de Bruxelles have been received from the Society (vol. xxi., part i.), containing an interesting article entitled *David Teniers et son fils, le troisième du nom*, in which some fresh facts are brought to light regarding the Teniers family; and M. Fernand Donnet contributes to the same number *Documents pour servir à l'histoire des ateliers de Tapisserie de Bruxelles, Audenarde, Anvers, etc., jusqu'à la fin du xvii^{e} siècle.*

The *Transactions* of the Essex Archæological Society contain notes by Mr. Henry Laver on "Roman Clasp-knives" and "Shoebury Camp," and amongst other Papers one by Mr. Miller Christy and Mr. W. W. Porteons "On Some Interesting Essex Brasses."

The *Journal* of the Sanitary Institute (vol. xvii., part iv.) contains a report of the proceedings of the Congress held at Newcastle-on-Tyne last year under the presidency of Earl Percy. Mr. J. Osborne Smith [*F.*] contributed to the Congress "Notes upon the Planning of Secondary Schools," and Mr. A. B. Plummer [*F.*] a Paper on "The Diameter and Inclines of Drains and the Flush necessary for Household Purposes, together with the Results of Actual Experiments made by the Newcastle and Gateshead Water Company and the Northern Architectural Association." Sir Andrew Noble contributed a Paper to the Congress on "Engineering and Architecture."

Mr. Howard Martin's suggestive Paper on "The Future of the Surveyors' Institution," and the discussion thereon, form the contents of the *Transactions* (vol. xxix., part iv.), received from the Institution.

Mr. Dankmar Adler contributes a concise and interesting article to the *Engineering Magazine* for January (vol. xii., No. 4) entitled "The Stimulus of Competition in Architectural Construction," in which he rapidly traces the function of a building in its relations to human achievement and progress, from the earliest times. Mr. Adler does not consider that architecture is losing its character as "the chief and final depository of man's accumulated wealth, and the enduring monument and final expression of the powers of achievement of its age and period"; nevertheless, he is of the opinion that if architecture is to maintain its position "it must adapt itself more adequately to the quickened movements and impulses of the new day."

The last four remaining parts for 1896 of *Der Formenschatz* have been received from the publisher [Munich: Georg Hirth], per Messrs. Williams & Norgate, each part containing some fifteen examples of artistic work of great variety and admirably selected, including reproductions of two etchings by Rembrandt (vol. x. No. 154; vol. xii. No. 187); illustrations of Greek sculpture and antique bronzes; examples of wrought ironwork, principally German, of the sixteenth century; a design by Bouchardon for the tomb of a cardinal; a finely decorated vase by Gille-Paul Cauvet; designs for cornices by Lalonde; a bookcase by the same designer, &c.

REVIEWS. L.

(137)

ITALIAN RENAISSANCE ARCHITECTURE.

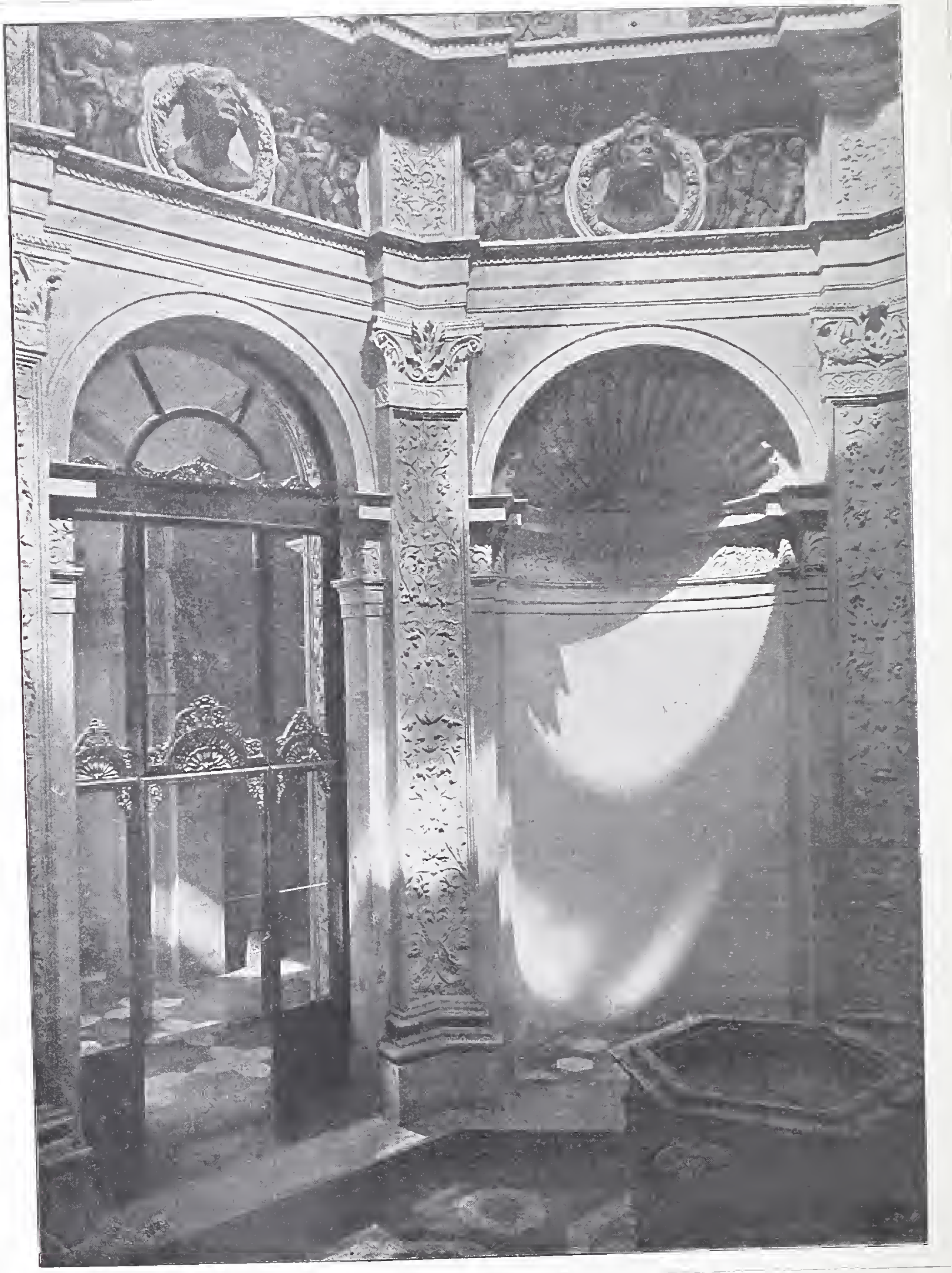
The Architecture of the Renaissance in Italy: A General View for the Use of Students and others. By William J. Anderson, A.R.I.B.A., Director of Architecture at the Glasgow School of Art. 8o. Lond. 1897. Price 10s. net, post free. [London: B. T. Batsford, 94, High Holborn.]

This is a delightful book, and, what is more, it is an important one. Apart from its own intrinsic merit and the never-ending attraction of the subject in hand, the appearance at the present time of a scholarly work on the earlier phases of Renaissance architecture is a boon, not only to architects and students, but also to clients of "the profession," whose knowledge or ignorance of the science of the subject makes all the difference in the success or failure of the architectural efforts of our time.

There are indications of a desire on the part of the public for instruction in the direction of a discriminating lead on architectural subjects. With almost a feeling of censure it is asked, "Why for a century past have we been deluged with sumptuous books on the architecture of later styles, when the works of the founders of modern architectural knowledge in the period from Alberti to Vignola have been left unnoticed and unstudied?"

There is practical common-sense in this reproach. The work these men wrought in the beginning has not died with them, because decadence almost imperceptibly succeeded, and was followed by merely an archæological or eclectic study of the art. James Fergusson truly reminds us that "we have only to go back to the inspirations which characterise the end of the fifteenth and the dawn of the sixteenth century to base upon them a style which will be as beautiful as it would be appropriate to our wants. If we only attempt to revive the traditions of the Great Age, we cannot go wrong. The aspirations of the artist architects of this period were right, and there was an impress of nobleness in their works which has not since been surpassed." He adds: "The Renaissance Italian is by no means worked out or perfected; and it has also this immense advantage, it has been so far adapted to the wants and exigencies of modern times that it is perfectly suited to all our purposes, and is so familiar to us that we may base on it any improvement we may invent without its seeming strange or out of place. Within the limits of such a style as this, progress seems possible; and if it is, the problem is easy of solution. It does not require a man, or set of men, as some have supposed, to invent a new style; the great want now is self-control and self-negation."

The main purpose of Mr. Anderson's book is to unfold, and in a minor sense to criticise, the works of the earlier architects of the Renaissance—those truly great men the like of whom seems to have been denied to the later periods. Of course, the author has favourites, like every writer on the subject before him; but we should be grateful for the clear exposition, accompanied by adequate illustration, which he gives, for instance, of the work of Baldassare Peruzzi, a man whose ideas were evidently in advance of his age, though characterised by all the refinement and scientific knowledge with which his contemporaries were imbued. It may be doubted if any of the thousand English travellers who pass the Palazzo Massimo, in the recently vulgarised "Via Nazionale" in Rome, ever turn in, if only to look at the cortile and loggia of that great master. The apparent anticipation of later developments might lead the casual observer to underrate the masterly treatment of one whom our author does not hesitate to rank as one "greater than Vitruvius." The Palace of the Massimi was not quite finished when its author died, at the age of fifty-five, in 1536, a prey to serious pecuniary anxieties. He was a great man, whose virtues equalled his talent. Algarotti says he was consulted by the whole of Italy like an oracle, whilst modesty and an absence of ambition governed all his life. His best known pupil is, perhaps, Sebastian Serlio, the architect of Francis I., who worked on the palace of Fontainebleau. He published a work on architecture, divided into seven books: the fourth almost wholly consists of designs by Peruzzi, and he acknowledges this at the head of the book. Apart, however, from any predilection of the author for any individual architect, the work before us leaves little to be desired in his estimate of each actor in the drama of Renaissance architecture; and if there is a latent want of appreciation of the scientific precursor of the whole movement, Leone Battista Alberti, by a suggestion of "pedantry" in connection with the notice of his work, we can fall back on the estimate formed of Alberti by the accomplished and learned Aldrich, Dean of Christ Church, Oxford, in 1710, the greatest architectural authority of his time, and one who "possessed a perfect acquaintance with mathematical science, and quickened by the subtlety of the scholastic logic." The Dean says of Alberti that "he was equally profound and



SANTA MARIA PRESSO SAN SATIRO, MILAN.

elegant; philosophy, law, mathematics, philology, poetry, were all familiar to him; in architecture superior (taking theory and execution together as necessary to complete the artist) to all of his time."

Of the estimate of Bramante in the work under notice it seems necessary also to say a word or two. Of all the leaders in this great period Bramante, perhaps, has more to tell us for our edification in this country than any other; and it is because out of the 128 charming illustrations Mr. Anderson gives us, two only fail to worthily represent the subject under consideration—and these are in connection with the work of this great master—that one ventures to recall an illustration or two from the accomplished monograph addressed to the Royal Institute of British Architects by the Baron H. von Geymüller, which appears in Vol. VII., New Series, of the TRANSACTIONS of the Institute, entitled "The School of Bramante," a Paper well worthy of the renewed attention of our members; and if there remain in these days any students of Italian architecture in the ranks of the outside public, its perusal may be cordially recommended.

It is to the period when he was residing in Rome, in the last quarter of Bramante's life, that it is desirable specially to direct our thoughts; the time when he was engaged on the Cancelleria Palace, and on the palace near the Vatican, the Palazzo Giraud, which was the residence of the English Ambassadors to the Holy See before the "Reformation."

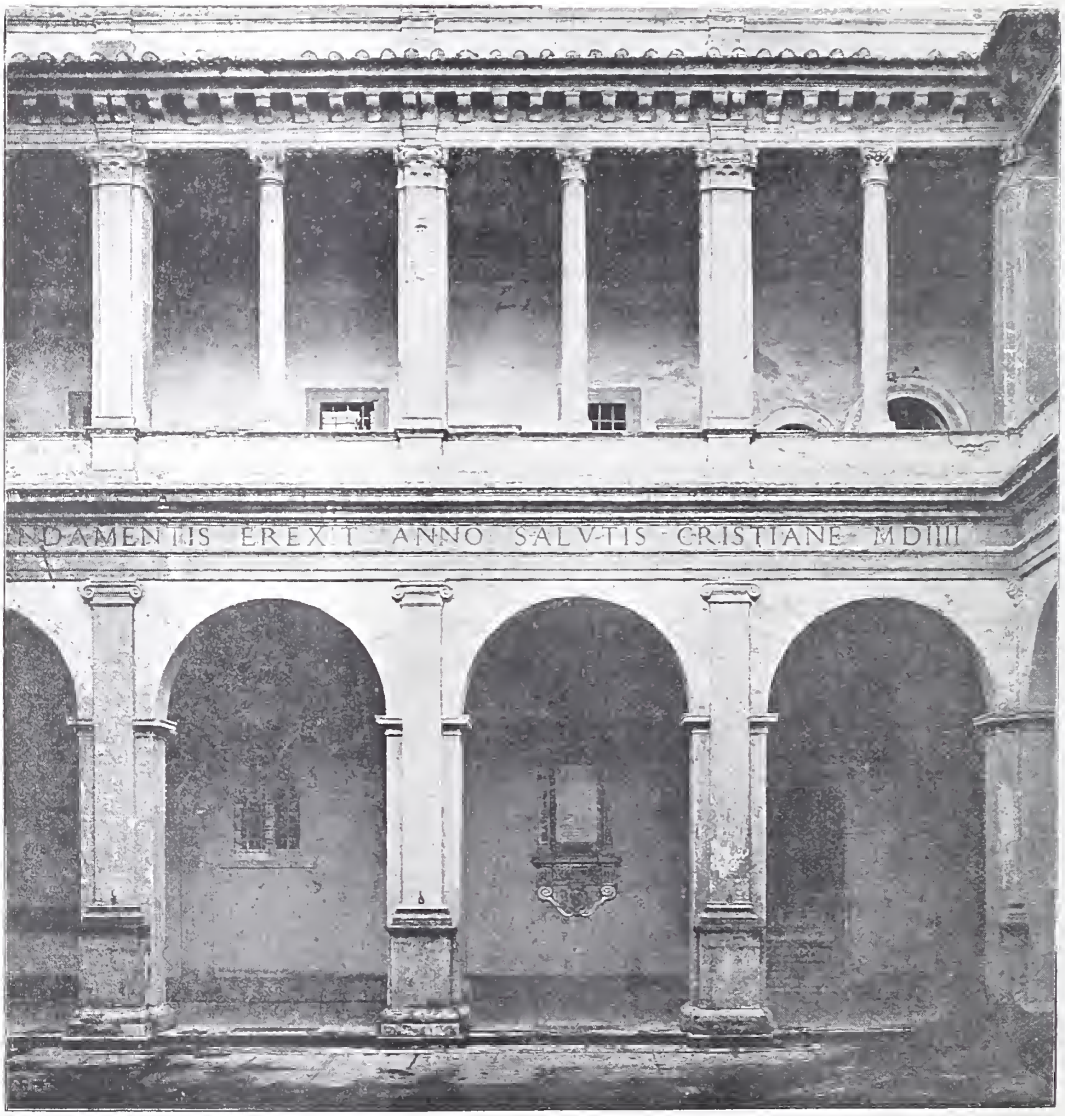
In these days, when ornamental detail has monopolised the affections of the multitude, it may be difficult to induce an appreciation for the studied simplicity which characterises these palaces. It may even come into the minds of some that the architect did not design in a style more florid, because he was not possessed of the necessary inventive power; and yet a glance at Bramante's well-known work, the sacristy of the church called San Satiro at Milan, is sufficient to show that no such charge can possibly be maintained against him. Witness the estimate taken of this work in Baron von Geymüller's Paper on the subject: "The charming and characteristic busts of the medallions, the playing children that hold them in the balustrade, all works in terra cotta by the celebrated Caradosso; the exquisite taste of each of the stucco relief ornaments in the pilasters, capitals, friezes, evidently executed under the closest inspection of Bramante, if not modelled by himself—all these combined transform the small building into one of the purest jewels of the Renaissance in Italy. Order and freedom, classical details, natural ornaments, and decorative fancy here already testify to Bramante's highest qualities, and show his mastery in both domains—in the composition of the whole, as well as in the details, displaying the utmost enchantment of taste, life, and liberty." It is submitted, therefore, that we may dismiss from our minds any suggestion that the studied simplicity of Bramante's designs at Rome was not of deliberate purpose. We see in them the result of the most rigid self-control exercised intentionally; and they are a proof that chaste and noble architecture can be produced by studied simplicity, provided adequate scientific study has prepared the mind of the designer how to proportion his work, not only in its great features, but also in each minute member of an architectural character that appears in the design, however destitute of carved ornament it may be.

It is, then, because a master mind of this calibre has shown us the way that we do well to study the works of this time which Mr. Anderson has opportunely placed in so compact a form for our use; and the illustrations of the Cancelleria cortile and the cloister of Santa Maria della Pace, which originally appeared in Baron von Geymüller's Paper above referred to, are reproduced here to emphasise what has been said as to the extreme refinement and delicacy of the work of Bramante at Rome. It was especially important, and only fair to the great artist who designed it, that another illustration should be forthcoming of the striking treatment of the angle of the piano nobile in the Cancelleria cortile. The ground-floor arrangement is almost similar, though of greater dimensions, and marks the spot of the assassination of Rossi, the Prime Minister of Pius IX.; an event that turned the whole course of modern Italian history in our times.

There remains a sequence of thought uppermost in the mind when reading this book of Mr. Anderson's. Is this, like so many architectural works, to take its place simply as a pattern-book, or quarry, from which to derive specimens wherewith to build up, after the manner of "electrotype reproductions," imitative reminiscences of a bygone period? Or is it not possible to go a step further than is done in the book under review, and seriously take in hand a real study of the principles made use of by these great masters in this the buoyant period of art?

Here we have a triumvirate, unequalled in power, who dominated the whole position—Brunelleschi, Alberti, Bramante—and the greatest of these for our purpose is Bramante; or, as Baron von Geymüller puts it, "a part of the genius of each continues to live in the works of his successor. A part of Brunelleschi continues in Alberti; and, though sometimes Bramante goes back to Brunelleschi, it is Alberti principally who inspires a part of Bramante's compositions; while many features of Bramante's *later manner* are known to us only by the works of his principal pupils or followers during the two subsequent generations." Is it not, then, possible to pick up the thread which was dropped when those all-absorbing experts Vignola and Palladio drove all before them by the scientific exposition of the systems that are connected with their names? There can be no question that definite principles governed the productions of the earlier masters, just as the works of the generation which followed were governed by the principles inculcated at a later period. But what were these methods, and where in writing are they to be found?

It would be well worth while for some one to conduct a searching investigation into the grounds of what has been suggested. That there is a *prima facie* case for inquiry is clear enough. The family likeness evident in the buildings erected by these masters is sufficiently clear to indicate a common source from which their principles were derived—or, rather, which they elected to make use of in common. Was it that the genius of these great men, after deep study of the classical remains of the past, evolved a system which, while resting on antiquity, inaugurated a fresh departure that has not yet had the chance of diffused acceptance? If so, let us see what can be done before the generation educated in the study of classic art—and there are still some who remain to us—passes away. If these have professional occupations that forbid literary work of a character requiring frequent visits to libraries both here and on the Continent, would it not be possible for one of the younger members of the profession to seriously take up such a subject as this, and thus lay the foundation in this generation of another band of men devoted to the literature of the subject to which it may be presumed he intends to devote his life?



BRAMANTE'S CLOISTER OF SANTA MARIA DELLA PACE, ROME.

If such a candidate for the task be forthcoming, the qualifications necessary are of a somewhat high order. He should, if possible, be a University man; if not, at least be possessed of high mathematical and classical education, and have no repugnance to the amount of study necessary to assimilate the meaning of early Italian writers.

PALACE OF THE CANCELLERIA, ROME. UPPER ARCADE OF THE COURTYARD.

Those who have been hitherto devoted to the literary exposition of the subject seem, according to Mr. Anderson, to have shirked this particular period of architecture; and he instances the case of a distinguished member of the Institute, the late Joseph Gwilt, as an offender in this particular. Referring to his valuable work, the *Encyclopædia of Architecture*, he says that "it contains not a single word which would lead one to believe in the existence of one of the buildings described in chapter iii. of this book"; in other words, he charges Gwilt with ignoring all works of "the early Renaissance out of Florence," a period which includes the early Venetian palaces and churches, the work of Bramante at Milan, and the like. There is no doubt we have not hitherto had sufficient evidence before us of this most interesting period; and it is for this reason that occasion is here taken, not only to advocate a special attention in regard to it, but also to induce study in a literary sense so as to obtain a clear insight into the principles and methods adopted by the great masters of the time. Was it apathy on the part of the *conoscenti* of our day that restrained Joseph Gwilt from adequately putting forward the claims of this period of architecture? Who can tell? One thing is clear—that it was not ignorance on his part which induced him to pass lightly over, or to treat so scantily, the early period of the Renaissance. A word or two from him will show his intimate knowledge of the literature of the period, when he introduces us to a contemporary volume, which has attained a great celebrity, not only on account of its being a fine specimen of the earliest Italian printing, but also because it was a book written in the year 1467, showing "an intimate acquaintance" with the rules then prevailing in the practice of architecture. His words are:—

> "About the time that Alberti was engaged on the practice and literature of the art, a very extraordinary volume, written by a member of the Colonna family, was published by Aldus of Venice in 1499, folio. Its title is as follows: *Polyphili Hypnerotomachia: opus Italicá lingua conscriptum; ubi humana omnia non nisi somnium esse docet*. This work deserves to be better known than, we fear, its rarity will ever permit." "Under the veil of fable, it inculcates precepts of the greatest utility to artists and those who love art." In this "dream" of his, "architecture appears in all her majesty." "With him all these ideal productions of the art were not merely the result of an ardent imagination, but were *the fruits of an intimate acquaintance with its rules, which he explains to his reader*, and inspires him at the same time with a taste for the subject of his pages." "Architecture thus treated in fiction was much more pleasantly studied than it would have been by mere application to the dry rules of Vitruvius." "This work is decorated with broad engravings of singular beauty, in which the details and accessories are strictly classical: it is written with great spirit and eloquence, and we are not amazed at the magical effect which, with the accompaniment of Alberti's book, it everywhere produced."

Let us, then, avail ourselves of this hint of the author of the *Encyclopædia of Architecture* when the volunteer comes forward to investigate the literature of this time, and extract the fragment bearing on the architectural history of this delightful period. As this book is about as early as anything likely to be forthcoming, it may fitly be consulted at the threshold of the inquiry. The writer of these lines, therefore, after personal investigation at the British Museum, has ascertained that the original edition is in the national collection; that it is known there as "the renowned Poliphilo, with fine woodcuts from designs which have been attributed to various distinguished artists, but without sufficient authority in any instances." This last expression of opinion probably has reference to the fact that the letter B appears on some of the impressions; as the book was written when Bramante was twenty-three years of age, it is not out of possibility that the initial was his, and that the drawings might be some of his youthful studies. The original, just described, is to be found in the Museum, under the catalogue number 634, l. 11. There are also in the Museum several French translations made at different periods. It may be useful to distinguish some of them, giving their reference numbers, to show where they are to be found in the library of the British Museum:—

Songe de Poliphile, traduction libre de l'Italien, par J. G. Legrand, 2 tom. Rome, 1811. 4°.

Songe de Poliphile, translation by C. Papelin, with wood illustrations, 2 tom. 8o. Paris, 1880-83.

Library number, 12403 ff., 4.

Fillon, quelques mots sur le songe de Poliphile [*i.e.* the Hypnerotomachia of F. Colonna], 1879, 11,840, l. 8. Published at Paris, apparently an extract from the *Gazette des Beaux-Arts*, June and July 1879.

The last twenty pages of Mr. Anderson's book are devoted to the late period, from 1550 to the eighteenth century. Within limits so narrow, of course, full treatment is impossible; nor is it necessary for English purposes to enlarge on the work of Palladio, for instance, whose genius has been so fully appreciated in this country by the publication of innumerable editions of his works during the last century. It is refreshing, however, to be spared the vituperative criticism that has become fashionable recently in some quarters whenever this great name is brought forward; and the illustrations the author gives from the buildings at Vicenza are a really interesting contribution to what has already appeared on the subject. That charmingly situated city, the Mecca of a former generation of architectural students, is in these days neglected for other sources of inspiration; and it is well to have a reminder of the scientific treasures still awaiting the studious worker who will take the trouble to turn aside to visit them—and not a word falls from Mr. Anderson to discourage the pilgrimage.

Of Vignola we have a pleasing reminder in the mention of his work outside the Flaminian Gate of Rome, which leads from the Porta del Popolo, with an illustration of the little church of Sant' Andrea, one of his earliest works. Few nowadays visit this little building when *en route* for its neighbour the celebrated Villa Papa Giulio.

It is true that the church is seldom open on a weekday, and only at an early hour on Sunday; but there is much to be learnt by the discerning student during a visit to it, and to the neighbouring farm, also a work of Vignola.

In noticing these final pages mention must be made of the illustration which is given of the interior of the Church of the Annunziata at Genoa, a church built at the close of the sixteenth century by Giacomo della Porta. There are few more impressive churches in Italy than this, and, notwithstanding the cold shoulder given by the guide-books to the building, it is a possession to have obtained so excellent a presentment of an interior so difficult to "take" by means of photography.

A glance at the photographic interiors given us of two churches—one the Redentore Church, and the other Santa Maria della Salute, at Venice—may provide a clue that will in some measure account for the feeling of disappointment felt when first entering these buildings. In the first, a masterpiece of Palladio, where one would expect, in the absence of every kind of ornament, to feel the full influence of the scientific methods of one so famous, there is a feeling that something is wrong, and that assuredly the architect is not in fault.

During a recent visit to Italy the writer of these lines took some trouble to analyse the feeling, and in the case of both churches came to the conclusion that the fault lay, not with the original building, but with the modern Italian decorator, who, finding the time for a cleaning due, could soar no higher than colour-wash, with which he proceeded, in *two shades*, to bedaub the edifices in question. The illustrations just alluded to will sufficiently indicate the crime that has been committed. Columns whose glory was in the scientific treatment of their dimensions have been bisected with the darker of the two favourite colour-washes, utterly destroying the stately effect by daubing them with what, in the jargon of the house decorators of our day, is known as a dado. This sort of thing has taken place all over Europe, and the buildings of this period whose renovation has become due about the same time suffer accordingly. The disturbing effect to which allusion has been made may be thus accounted for.

It is not, however, the author's main purpose to deal with the works of this later period. Four-fifths of his book are devoted to the early and the culminating periods, and this is exactly what is required at the present time. No one who has ever attempted to unearth from ponderous tomes in libraries, too few for general use, is unaware of the impediments to a proper study of the most interesting period included in this volume. We have here collected a thoroughly representative series of buildings, just such as a judicious traveller would select to visit if he wished to understand, not only the masterpieces of the painters of Italy, but also the caskets in which their works are enshrined; and the criticisms of the author are of greater value than his modesty seems to claim for them. The acknowledgment he makes to his publisher, Mr. Batsford, for the liberality with which he has enriched the volume with so large a number of illustrations can be fully endorsed. They help the study of the matter to the fullest extent, selected as they have been with the greatest judgment and perception.

LENOX PRENDERGAST.

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ANCIENT EGYPT.

A History of Egypt. Vol. II. The XVIIth and XVIIIth Dynasties. By W. M. Flinders Petrie, D.C.L., LL.D., with numerous illustrations. 8o. *Lond.* 1896. *Price* 6s. [*Methuen & Co.*, 36, *Essex Street, W.C.*]

It seems opportune to remind the reader that the first volume of this important text-book appeared in 1894, and that a pithy little notice of it was contributed to the JOURNAL of 27th June 1895 by Professor Sayce, than whom no one could more competently appreciate and criticise the closely packed contents into which the author had condensed the labour and research of years. This the second volume is, if possible, even more full of material; indeed, the perusal of any two or three pages leaves the reader amazed at the lavish contribution of compact information, the result of enthusiastic search and keen perception.

Egyptian history does not sound a thrilling or exciting subject; yet the reader will not have perused one chapter of Mr. Petrie's book without being aware that the author's intuitive grasp of the meaning of the evidences before him infuses real life and movement into the apparently dry bones. He has that special instinct which distinguishes every born explorer, and which seems to turn the imaginative faculties of the mind into a kind of second sight. To such a seeker, evidence which seems trifling and meagre becomes rich in suggestion; and, as one or another suggestion accumulates confirmation from other meagre evidence, the facts seem to emerge clothed with life. It would be folly for one who is no Egyptologist to attempt analysis or criticism of the deductions Mr. Petrie draws from the evidences which he brings together. I can therefore only direct attention to the careful and masterly way in which the details of evidence are assembled, often in tabulated form, and the ingenuity and wide grasp with which these are made to yield historic facts and human interest. Take the chapter on Amenhotep IV. This great king comes to the throne a mere lad; is married to a princess of distinct ability; and within a few years, as Mr.

Petrie shows us, there is a marked change in the religious forms, and in the very object of worship. The whole reverence of the country is directed to the Sun, as the source of all vital growth and force. The king himself changes his title in conformity with the new religious views; and, as the reader follows Mr. Petrie's description of what occurred in the 14th century B.C., he becomes as convinced as if he were reading of the religious struggles in England under the Tudors and Stuarts. I cannot forego allusion to the Hymn to Aten (the Sun), of which Mr. Petrie gives a simple but powerful translation. It has the enthusiastic grandeur of some of the Psalms, in which recognition of the Divine power in the simple incidents of the nature around us is the means of appeal to the human heart. The care with which the author follows up the relationships and alliances of the royal families of Egypt, not only from monuments or other inscribed objects, but from the actual correspondence, in cuneiform character, found at Tell-el-Amarna within these few years, is on a par with the rest, and is most interesting. To any one taking even the most dilettante interest in the past of this wonderful country, the book is invaluable for its quality of infusing life into a remote antiquity. Nor must I conclude this notice without calling attention to the extent to which this interest is enhanced by the very clear and well-selected illustrations, especially, perhaps, by the portraits, the individuality of which is striking. I should doubt whether there is in our Library any book containing in 350 octavo pages as much closely condensed result of learned research put into such interesting and simple form, or—let me add—better printed.

J. D. Crace.

MINUTES. VII.

At the Seventh General Meeting (Ordinary) of the Session, held Monday, 1st February 1897, at 8 p.m., Mr. Alex. Graham, F.S.A., *Vice-President*, in the Chair, the Minutes of the Meeting held 18th January 1897 [p. 157] were taken as read and signed as correct.

The following Associate, attending for the first time since his election, was formally admitted, and signed the Register—namely, Harry James Gee Smith.

In regard to the award of the Royal Gold Medal for the current year, the Chairman announced that the Council proposed to submit to Her Majesty the Queen the name of Mynheer P. J. H. Cuypers [*Hon. Corr. M.*], of Amsterdam, as a fit recipient of the honour, for his executed works as an architect.

The Chairman announced that arrangements had been made for a party of members, not exceeding thirty in number, to visit Peterborough Cathedral on Saturday the 6th February, and requested members desirous of joining the party to signify the same to the Acting Secretary at the close of that evening's Meeting. In connection with the proposed restoration of the west front of the Cathedral, the Chairman further announced that the Council, after full consideration, had decided that it would be inexpedient for the Institute to take any public action in the matter.

The following candidates for membership, found to be eligible and qualified according to the Charter and By-laws, and admitted by the Council to candidature, were recommended for election, viz.:—As FELLOWS, Henry Clement Charlewood [*A.*], *Qualified as Associate* 1888 (Newcastle-on-Tyne), Joseph Gibbons Sankey, M.A.Cantab., Pugin Student 1884 (Manchester), James Diggle Mould [*A.*], *Qualified as Associate* 1888 (Manchester); As ASSOCIATES, Herbert William Bird [*Probationer* 1891, *Qualified* 1896] (Hong Kong), Charles Frederick Innocent [*Probationer* 1889, *Student* 1894, *Qualified* 1896] (Sheffield), Alfred Edward Corbett [*Probationer* 1891, *Student* 1892, *Qualified* 1896], Stephen Powlson Rees [*Qualified* 1896], Charles Henry Dorman [*Probationer* 1890, *Student* 1893, *Qualified* 1896] (Northampton), Alexander Godolphin Bond, B.A.Oxon. [*Probationer* 1894, *Student* 1895, *Qualified* 1896] (Bristol), Gilbert Wilson Fraser [*Probationer* 1890, *Student* 1892, *Qualified* 1896] (Liverpool), Delmé George Mootham [*Probationer* 1892, *Student* 1893, *Qualified* 1896], Clement Osmund Nelson [*Probationer* 1891, *Student* 1894, *Qualified* 1896], Rupert Claude Austin [*Probationer* 1892, *Student* 1895, *Qualified* 1896], Henry George Fisher [*Qualified* 1896] (Northampton), Charles Samuel Frederick Palmer [*Qualified* 1896], *Arthur Cates Prizeman.*

A Paper, by Mr. Alfred Gilbert [*H.A.*], R.A., entitled The Sculptor's Architecture of the Renaissance, was read by the author, and, having been discussed, a vote of thanks to Mr. Gilbert was passed by acclamation.

The proceedings then closed, and the Meeting separated at 10.15 p.m.

LEGAL.

The London Building Act: Fire-resisting Materials.

MCLACHLAN *v.* KEARLEY.

Mr. Hugh McLachlan [*A.*], District Surveyor for the Western Division of the City of London, complainant in this case, reported *ante*, p. 160, on the authority of *The Law Journal*, requests that his reply to the comments of that journal on the Lord Mayor's decision should be printed in these columns. In his letter to the Editor, which appears in the current issue of *The Law Journal*, Mr. McLachlan says:—"You venture to suggest that the decision of the Lord Mayor was a wrong one, arriving at the conclusion that the question to be decided was whether lead was a 'fire-resisting material' within the meaning of the Act or not. I agree with you that the point was not with reference to 'fire-resisting materials,' but solely with reference to the question of 'combustible materials.' Sections 61 and 62 should not have been imported into the case, and had nothing to do with section 59, which last I contended had been contravened. My point was that wood is a 'combustible material,' that the dormers were solely framed and constructed of that material, and that the lead was a covering only, and required by section 61. If it had been possible to construct the dormers solely of lead, and had they been so constructed, there would have been no complaint. Mr. Daldy was instructed by his client to overlook or minimise the importance of the wood and to make the most of the lead, but he called no evidence to support his contention. It was then pointed out to him that I had given evidence that the erections were really of wood, and that the evidence was on one side only, whereon Mr. Daldy practically gave up his case."

Erratum.—Mr. Arthur Cates's speech: p. 149, col. 1, line 17, *for* "we" *read* "was."

USUI CIVIUM DECORI URBIUM

THE GARDEN IN RELATION TO THE HOUSE.

By H. E. Milner [*H.A.*], F.L.S., Assoc.M.Inst.C.E.

Read at the General Meeting, Monday, 15th February 1897; and registered at Stationers' Hall as the property of the Royal Institute.

IT is not proposed in this Paper to set forth a history of gardening in this country, but rather to state my opinion as to the treatment to be adopted in laying-out grounds, particularly in their more immediate relation to the house, and to indicate generally a practical application of the theories advanced.

It would be well to first offer some remarks on a subject that has long vexed designers—viz.: the style of treatment to be adopted—and to try and arrive at some definition of ideas. Some extremists maintain that the garden should be a formal enclosure, with intricate flower-beds relieved by plots of grass, with little consideration for the possible creation, or the embracing, of a beautiful landscape. Other extremists would bring the field up to the drawing-room window, and dot patches of flowers and plants irregularly about the lawn, with the fond idea that such treatment is natural, and that design is incompatible with beauty.

The art of architecture developed long before that of landscape-gardening. The fortress, with its small enclosure of exercise-ground, was followed by the herb-garden and orchard of the religious houses, and it was only when people were able to live in peace that any extension of pleasure-grounds became possible. The prime idea then was to provide food, and to mark in the treatment of the enclosed ground a difference between it and the surrounding country. This formal treatment developed greatly till it reached a high state of perfection under Elizabeth, when the architect who designed the house also laid out the garden with its forecourt and broad terrace, its straight walks leading from it encompassing the flower-beds, and all harmonising with the building. Yet the garden was enclosed, and little thought devoted to the treatment of the country outside beyond the planting of avenues. Bowling-greens were common, and the pleasure and rest of greensward were appreciated.

Under Charles II. design began to deteriorate, and the ideal sought for was intricacy of parts, repetition, and vagaries. Soon came a reaction, and, towards the end of the eighteenth century, fashion ruled the destruction of most of the old formal gardens, to be replaced in very many instances by a no less artificial and formal imitation of nature. The designers at this time were not content with amalgamating with whatever was good of the old work a natural treatment of the outlying ground, or of giving greater breadth to the existing formal work, but swept away all this and replaced it by meaningless walks, by clumps of trees and shrubs dotted irregularly on the lawn and park, by a boundary of planting, by imitation of bits of natural scenery, by the introduction of artificial ruins and such-like objects, with the desire of making a picturesque landscape. There was no charm for them in the cultured classic taste that formed the quaint hedged-in retreat with its pool and splashing fountain, and the sculptured goddess relating on her pedestal the pleasures of the garden.

Excess was reached in the formal treatment when the rule was repetition of intricate designs for irregularly growing flowers, of long avenues of trees with indefinite purpose, of hedges of yew, box, thorn, or privet, growing beyond control, of single plants cut into fantastic shapes, and of plants tortured to take the place of masonry or brickwork.

Excess was reached in the picturesque treatment by the effacement of existing work near the dwelling, simply because it was formal, by the effacement of any appearance of division between the garden and park, by the placing of the refined building in a waste of field, by the mere extension of the nearer enclosure to the boundary, by a striving after a forced picturesque effect, and by a general feeling of artificiality, though a pretension of nature-imitation was set up.

Now, does not the proper treatment lie in the happy mean? Is it not as unfitting to pretend that in a lovely undulating country, with fine old trees forming the foreground of the valley ending in a lake, with the adjacent hills clothed with trees of ever-varying shades of colour and form, with the view split up to catch a distant spire, a rising peak, or a cleft in the hills—that such a view should be circumscribed by hedges or walls, or its breadth spoiled by frittering rows of trees—as to maintain that the house shall be fixed in a field, that curved walks shall surround and lead from it and destroy all setting of the stone jewel, that clumps of trees and shrubs, artificial in their outline and grouping, should be without system dotted about as if thrown from the clouds, and that any recognition of the hand of man should be studiously avoided?

The material with which the architect works in building his house differs altogether from that which the landscape-gardener has at his service. And I differentiate greatly between the treatment of terraces, walls, steps, balustrades, &c., in stone and verdure. A stone or brick terraced wall, with its broad mouldings, its recesses, its surface clothed with varying climbing plants, its open balustrading, is a lasting work; whereas a hedge in time must lose its original character. I think architects should appreciably extend their work in the garden in connection with the building; but I also think that this work should go hand-in-hand with the composition of the greater picture, which the art of landscape-gardening should produce.

I quite recognise the charm and quiet beauty of true formal work—not the repetition of knots and hedges and avenues; but I say that in the treatment of ground we should pass the old limitations, that we should be influenced by a broader spirit, that we should take into account the increased resources of modern horticulture, that we should try and appeal to the mind, not merely to the eye, by the beauty of composition of line, colour, perspective, and grandeur, and that we should not degenerate a liberal art into a mechanical one. It must be borne in mind that places differ much—in the conformation of the ground, in climate, in soil, in the requirements of the owner, in the amount to be expended, and in the possibility of an extension beyond the immediate precincts. It would therefore seem futile to lay down any hard-and-fast rules for design, for that which would be suitable for a plain would be inapplicable to a hillside; that which would be fitting to a peaty hollow would be wrong on a chalky slope; that which would satisfy the poor man would hardly be deemed sufficient indication of the wealth of a proud possessor; that which would enclose an oasis from the surroundings of factories might shut off the view of lovely hill, dale, and water, and imprison the dweller within a wall—possibly charming in itself, but tiring by restraining the eye from wandering to the unseen and glorious beyond.

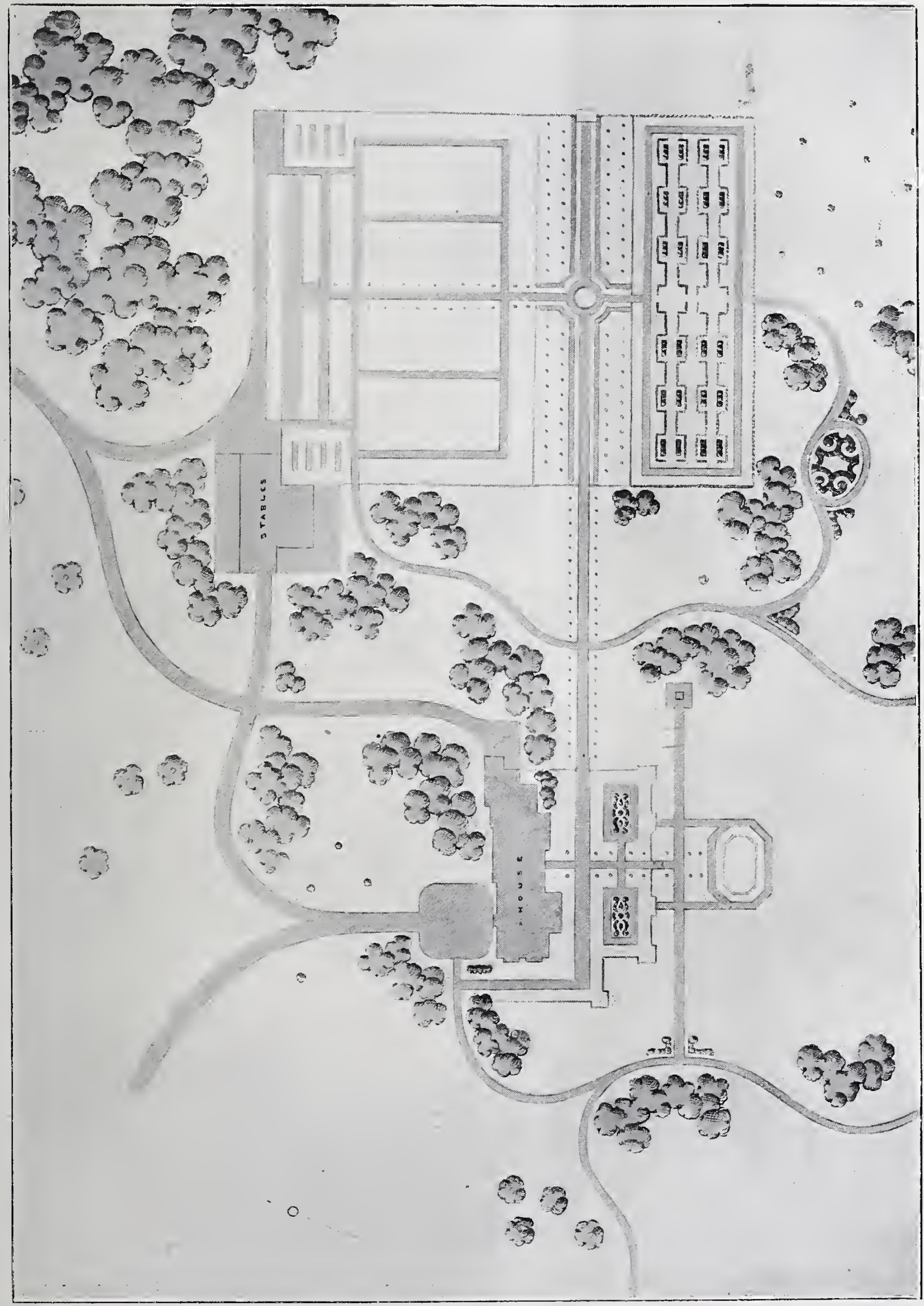

FIG. 1.

I now deal more in detail with the site, the approach, the terrace, and the garden formation and planting. In the site of a house there should be considered aspect—relation to the points of the compass; prospect—relation to the surrounding view; convenience in regard to the approaches and communication with the stables, out-offices, and gardens; the levels of the land; and the formation of the subsoil.

The forms of houses and the position of the principal rooms in them are so varied that it is difficult to put down a rule that shall be absolute for all, even in the matter of aspect. In the Southern and Midland counties of England it is preferable that the main line should face south-east. If the sides of a house form a square, and the front be to the south-east, it would have sunlight on all its walls, and, as the sun exercises its fullest force between 1 and 2 P.M., its rays would then fall at an angle on the walls, and thus by its indirect impact save much oppressive heat. If we imagine a plan that possesses desirable features, the site should have fine prospects to the south-east and to the south-west, the principal approach and entrance on the north-western face, the offices on the north-eastern side, with the stables and kitchen-garden beyond; the pleasure-gardens on the south-east side, with a continuation towards the east, and the south-western face might be open to the park. The broad terrace would be on the south-east face, with its main straight walk continued to the distant fruit-garden below the kitchen-garden, and its balustraded wall continued round the western front to join with the formal forecourt or entrance drive.

In Fig. 1 [p. 187] we have such an example. A large group of old elms beyond the south-east corner of the house forms the very necessary foreground, while raised planting beyond the south-west corner produces a similar effect. And here I would add that a tree, or a near group of trees, should invariably be taken into account, so that they may provide a foreground for the prospect. In fact, if no such foreground exist, it is often advisable to make one by raising the ground and planting on it a few old trees.

A house should not be placed facing a parallel boundary, or row of trees, or lie of country; and this remark applies equally to smaller houses not actually in a street. In hilly ground the house should preferably be placed on a slope, and the floor-level kept well up. In fact, I find that the majority of houses have their floor-lines placed too low—I do not mean in relation to the immediate surroundings, but to the general land-level. At Iwerne Minster, the house, necessarily placed in a flat area but with hilly country around it, had its ground-line raised ten feet, with the floor-line two feet above this. In ground sloping from north to south it becomes more necessary still to keep up the ground-line of the house, so that the approach may not fall to the house. A house will not appear perched up if its ground-base be sufficient.

It seems desirable that such beauty as may be derived from a prospect should be obtainable from the best apartments of the house, and the position of these rooms may be regulated accordingly. It is possible that the best views cannot be obtained from the house, hence another source of attractiveness is created in the gardens and park, and care should be taken to emphasise this spot. There is the prospect into the garden, with glimpses of the winding drive, the corner of the yew hedge enclosing the herbaceous garden, the climber-covered wall, the lake, the varying colours of planting, the long-stretching lawn, with the foreground of basin, balustrade, or tree; and there is the prospect of distance, with the view of distant mountains, of sea, of abrupt hills with ever-changing shadows, of woodland, or of grassy plain, with the welcome growth of intervening trees. The principal rooms of the house should face an opening in a view, and not an abrupt hillside; and if an uninterrupted plain extend, then foreground and middle-distance objects must be introduced to break up the too regular panorama.

Shelter has an obvious connection with the particular district. The most natural and

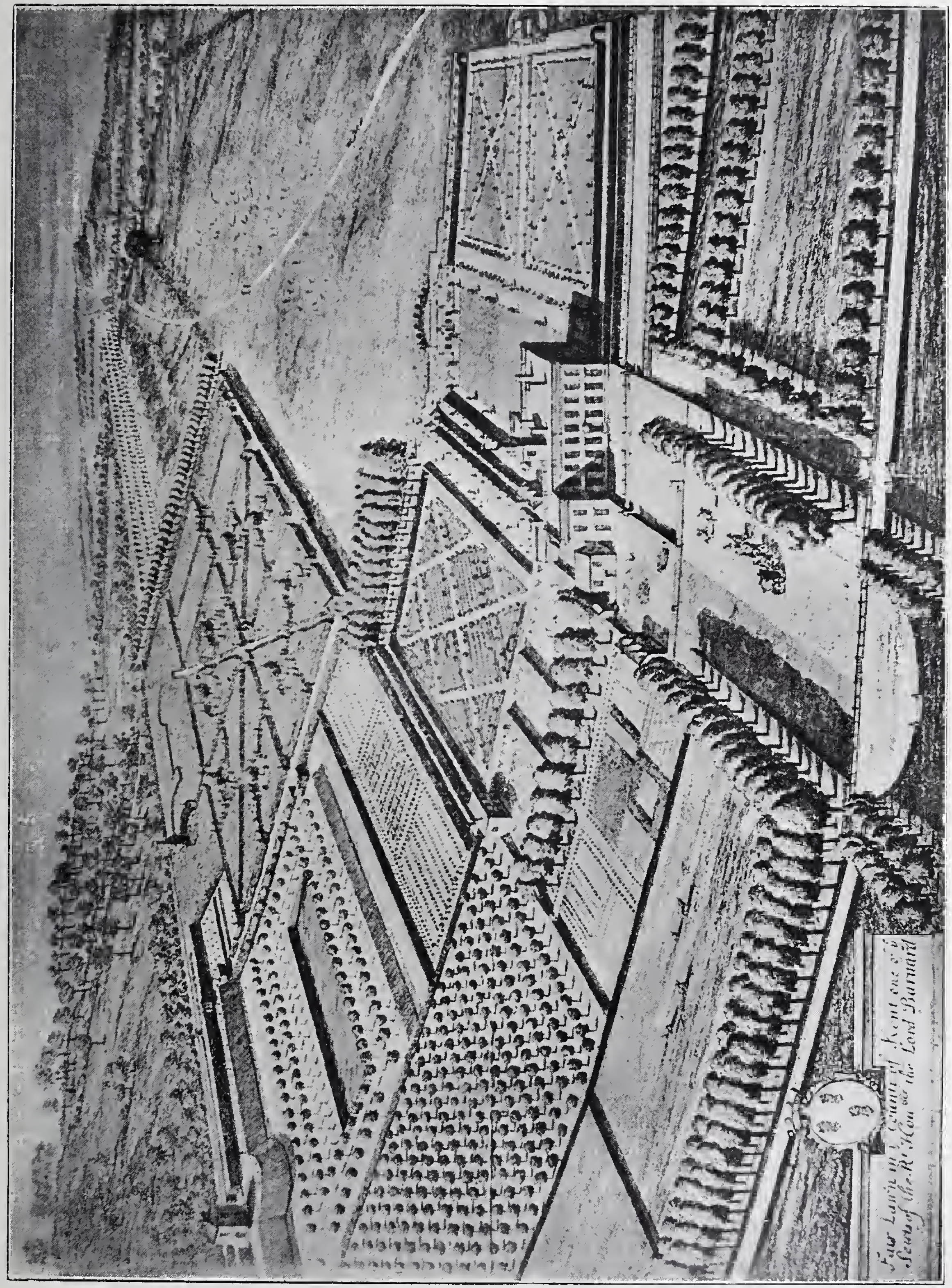
Fair Lawn in ye County of Kent one of ye
Seats of the Rt Honble the Lord Barnard

FIG. 2.

best protection is found in a wooded hill, and wind force is more effectually modified by growing trees than any other means. If no hill exist, planting should take its place. It should extend generally on the north-east, north, and north-west sides, and, in many districts, on the south-west side. The northern and eastern planting may extend fairly close to the house, but not so planting on the south-west side, as it is not conducive to health to have a mass of foliage close to the house on the south-west side. The difference can frequently be felt by any one who stands at the south-west corner of a wood with a north-east wind blowing, where its passage is tempered by blowing through the trees, and by one who stands at the opposite position with a south-west wind blowing through the trees, where its passage through them gives the watcher a damp experience.

With regard to subsoil, frequently there is little choice. When a dwelling-house has to be erected on a fresh position a porous soil is to be preferred. But gravelly districts may have been old river bottoms, not a formation in an open and deep sea; and when you find these near to existing rivers, when low-lying, or in districts that are thickly inhabited, it is in my opinion as necessary to spread a layer of concrete over this site as over a clay subsoil to prevent the exhalation of noxious gases through the light soil from depths where percolated moisture may be stagnant. In moderately pervious clay dampness can be removed by efficient drainage.

Perhaps it would be well to put this matter more in detail, as it must so often come before you. Retentive soils do not give off vapour so copiously as free open soils, and the temperature is thus not lowered. The lower the water in the soil, the less evaporation is there, and the warmer the adjacent air. The level of the water in the subsoil regulates the amount of ground air. A fluctuating water-level is unhealthy. Subsoil water is colder than rain-water, and as this warmer water will not descend through the colder water, this latter must be carried away. Therefore, drainage is introduced. Soils have a very varying conducting capacity for heat, and clay is a better conductor of heat than sand; so it allows the sun's rays to pass rapidly downwards, and the surface does not become heated to so high a degree.

From these data it is evident that if a light clay soil can allow the surface-water to pass through it quickly, and that the level of the subsoil water can be kept even by the provision of adequate drainage, then an even temperature, free movement of air in the soil, and a healthy condition must result. You must frequently have noticed in walking or driving through an undulating chalk district at sunset, how the dampness is felt in the hollows when the declining sun's rays have left them.

In settling the site of the house, the approach to it helps to determine its position, and the chief points for consideration are the entrance from the public road, the route thence, the divergence to the stables, offices, kitchen-gardens, farm, &c., and the direct entrance to the house.

The approach to a house should always appear to be direct, and any deviation from such directness should not only arise from, but should also be made to arise from, some decided obstacle. By direct is not meant straight. A straight approach requires careful treatment. It is artificial in character, it can appropriately be used when an imposing or somewhat pretentious building is at the end of it, or when the distance is short, and when the country is flat. In sloping ground it should, if possible, be made against the slope of a hill. The gradient should be even and flat, or very slightly and continuously curved, otherwise it will appear not straight. If the ground is very undulating, a straight road is out of character with its surroundings. It may be worth mentioning that in laid-out grounds of Tudor times, even where an avenue has been planted, the drive has followed a curved line to the forecourt of the house. [See Fairlawn, p. 189.]

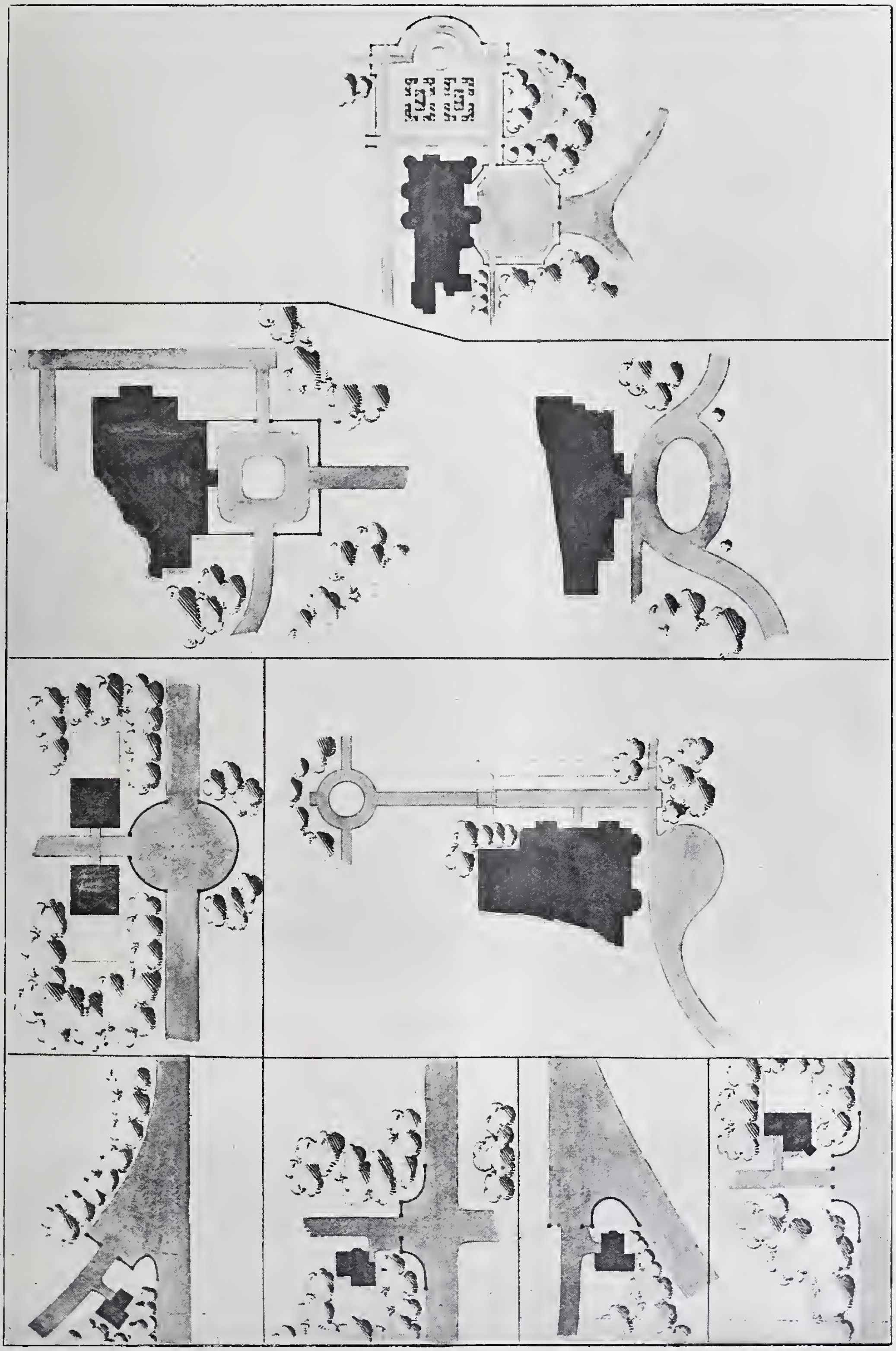

FIG. 3.—ENTRANCES.

A curved line of road is generally to be preferred, for it is more easy of construction, more varied views can be obtained, its gradient can be varied, following within limitations the natural undulation of the ground, and the side slopes can be more easily and freely dealt with than the sides of a straight drive. At the entrance from the public road, and also where the road reaches the house, the route should be nearly level, and the line straight. It should rise towards the house when approaching it directly, and it should be level at crossings or junctions. It should not run parallel with the public road, with the mere purpose of lengthening the course or seeming to prolong it, though, when the house is at a much higher level, and the object is apparent, this resource must sometimes be adopted. Curves should be long and easy, and the gradients should not be those of a certain ratio meeting at angles, as in a railway line, but should rise or fall with a curve, as even, continuous, and graceful as the horizontal line of the drive. The gradients should not be steeper than 1 in 14, though 1 in 9 is a road over which a carriage may be driven in safety. A breadth of 9 feet suffices for the passage of one carriage; where two carriages may meet, the road should be 14 feet wide. The above dimensions may be adopted only when the ground is flat, and on either side of the road is grass, on to which a foot-passenger may retire, or on to which a carriage may be turned. But in ordinary cases it is better to allow 11 or 12 feet for a single drive, and 14 to 18 feet for the double road. But the width of drives is frequently determined, not by the exigencies of the traffic, but by the relatively important character of the route. Thus, a drive to the principal entrance of the house might be 15 feet, while that to the stables or offices might be 12 feet. A drive of 14 feet should round over 3 inches, and the turf at sides should be 1½ inch above the roadway. Gully-holes, or means provided for the disposal of surface-water, should be provided about every 50 yards, this distance being lessened on steep gradients up to 20 yards apart. Drives should have a bottoming of 6 to 9 inches of hard core, and a surface coating of gravel of 3 inches. Walks should have from 4 to 6 inches of hard core, and 2 to 3 inches of surface coating of gravel. Drives that leave the main route for unimportant points should be curved as soon as may be convenient, and taken from the main drive at nearly right angles, and the sides of all drives should have a level space of at least 2 feet; and whether the drive be in cutting or filling, the sides should slope from this to the natural surface by an ogee curve. The treatment of either end of the main carriage drive is of importance. In choosing the place for and forming an entrance from the public road, advantage may be taken of a turn in the highway, so that by adopting the line of the public road, and continuing it to the entrance-gates, an open area may be provided and importance given to the entrance, or the entrance may be made at the junction of two roads, or where a cross road comes on to the main road. Unless in wide highways, the entrance should be set back sufficiently to allow a carriage to stand clear. The entrance to a straight drive should always be made imposing. In all drives, when the entrance leaves the highway at right angles, thought must be given to the treatment of the ground on the opposite side of the public road. It is advisable not to make the entrance at the actual boundary of the property. Consideration must also be had for the direction of the principal traffic either to town, station, church, or notable places. It is advisable to plan the entrance on level ground, at a break of gradient, preferably at the foot of a hill, and not part-way up the ascent.

The lodge and entrance gates belong to the drive, and should be parallel with and at right angles to it, as distinguished from the highway. The face-line of lodge should be at least 10 feet from the edge of the drive, and its windows should be able to command the entrance and a certain length of drive. On entering by the drive, it is advisable to create a good impression, and therefore to mark distinctly the difference between the dusty highway and the shaded, well-trimmed drive within the gates. Planting may be introduced on either side

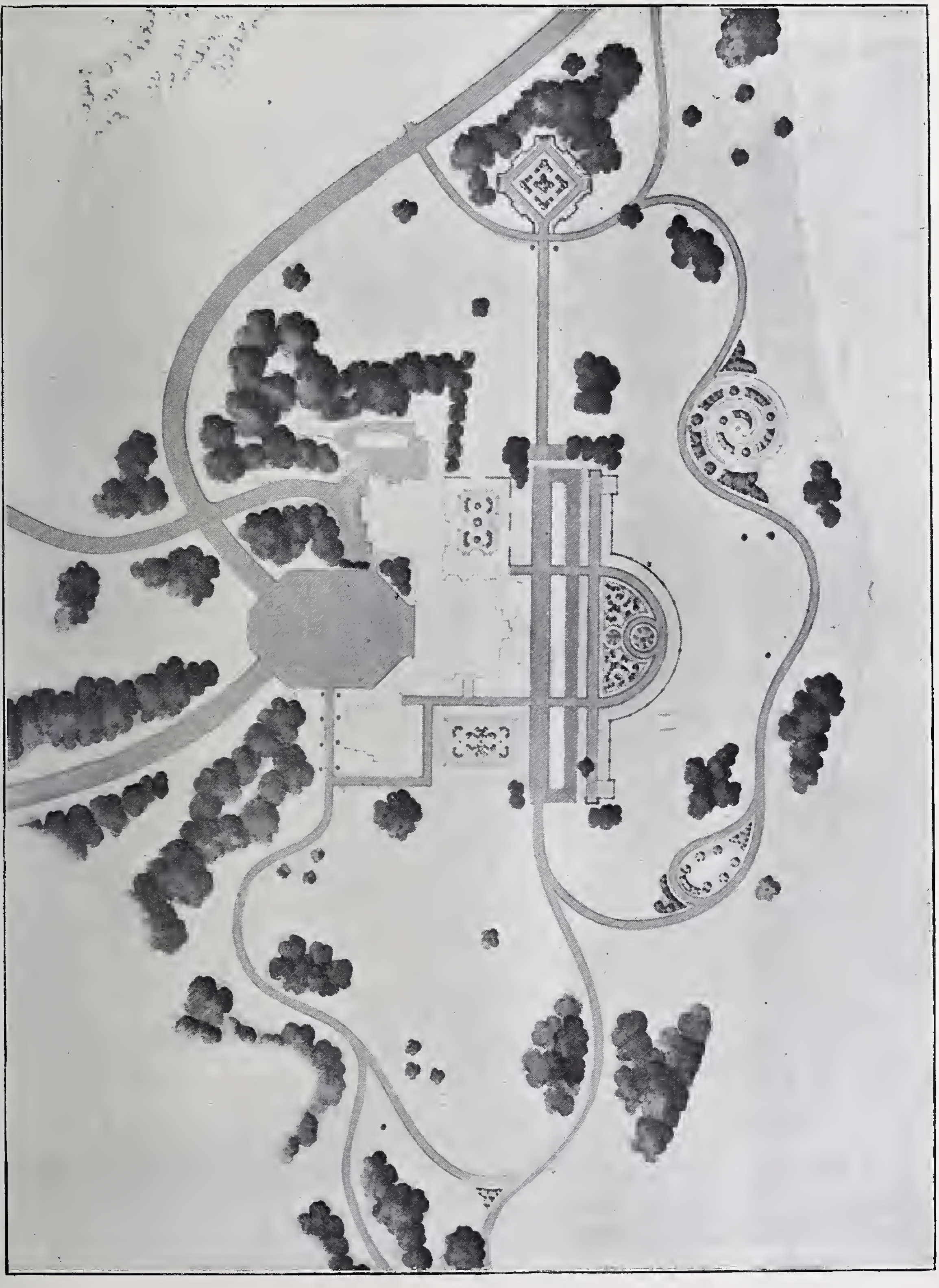

FIG. 4.—BAGSHOT PARK.

of the entrance, but once well inside, a view should be given of the outlying grounds, or stretch of park, or distant wood. A curved drive should not be planted continuously, but broad masses of planting may be introduced, at first to shut off the highway, at turns in the drive, and on the top or slopes of knolls round which the drive may wind. If a winding drive is in cutting, it is well to avoid a continuous formal slope. The eye will determine the ratio of slope by its most hollowed part; therefore, hollow out the ground in such parts where the neighbouring ground more readily lends itself to it, and keep other parts steep, planting the tops and slopes. The drive should not skirt the garden, or overlook it. It is sometimes difficult to comply with the former condition, but the latter can generally be met by sinking the carriage-way, by raising a bank along the gardens, and by planting. The drive frequently passes through the gardens, in which case its treatment is that of a broad walk.

The direction and level of the approach, and the character of the architectural features, will rule greatly the plan that can be adopted for the treatment next the house. The gravelled plain in front of the porch should not be less than 33 feet for a small house, but 40 to 70 feet are requisite where two or more carriages may stand. There must be a sufficient space on each side of the porch, in line with it, to admit of carriages drawing up to and leaving the door conveniently. If a forecourt be surrounded by walls or balustrading, this should not be higher than 3 feet, unless special circumstances require it. In ground rising from the house, a lower enclosing boundary-wall may be used, with the ground filled up to the top of the wall. I think it advisable that there should be a margin of turf between the edge of the drive and the house or forecourt walls. [See examples, p. 191.]

The treatment of the terrace also depends very much on the architectural character of the building. By "terrace" I mean not only the narrow strip of level ground placed parallel with the house, or the more stately portion—often with architectural adornments—that is laid out along the face of the structure, but the whole of the ground that forms the base or setting of the building. A great divergence between the work of English and foreign landscape-gardeners is to be seen in their several methods of dealing with the ground immediately surrounding the house. In England, we insist that the treatment of ground next it shall be artistically formal, with regular lines of turf, wall, slope, walk, or bed, all displaying harmony as far as may be, with its architectural character. On the Continent, with some important and notable exceptions, they surround the house with broad, irregularly curved spaces or walks, that have nothing in common with the design of the structure. By one practice the endeavour is to give a base to the building and to create on the contiguous ground an expression of kindred artistic spirit; by the other, the ground is treated as something apart, and a feeling of unrest is created.

A terrace may have various forms, from the simple walk parallel with the house to a more elaborate arrangement. The larger, more important, and decorated the building, the more extensive and massive may be the terrace. It should have a definite proportion to the size of the house. A rough rule for the top terrace is that it should extend from the face of the house as far as the height of the main building. But this width must depend on the nature of the ground beyond, so that the prospect of this ground be not shut off by the terrace. The part nearest the house should be level with its ground-line. The ground-line may be taken as 18 inches below floor-line. Length of terrace gives importance to a plan. The grass next the house should not be less than 10 feet, the walk not less than 10 feet, and the grass between this and the wall or turfed slope not less than 8 feet. The terrace should preferably slope 1 inch in 10 feet from the house. The greater the depth of slope, the greater should be the distance between the walk edge and the top of the slope. Gravel may extend, however, to a balustrade. If a walk be made at the foot of a slope, there should be at least a

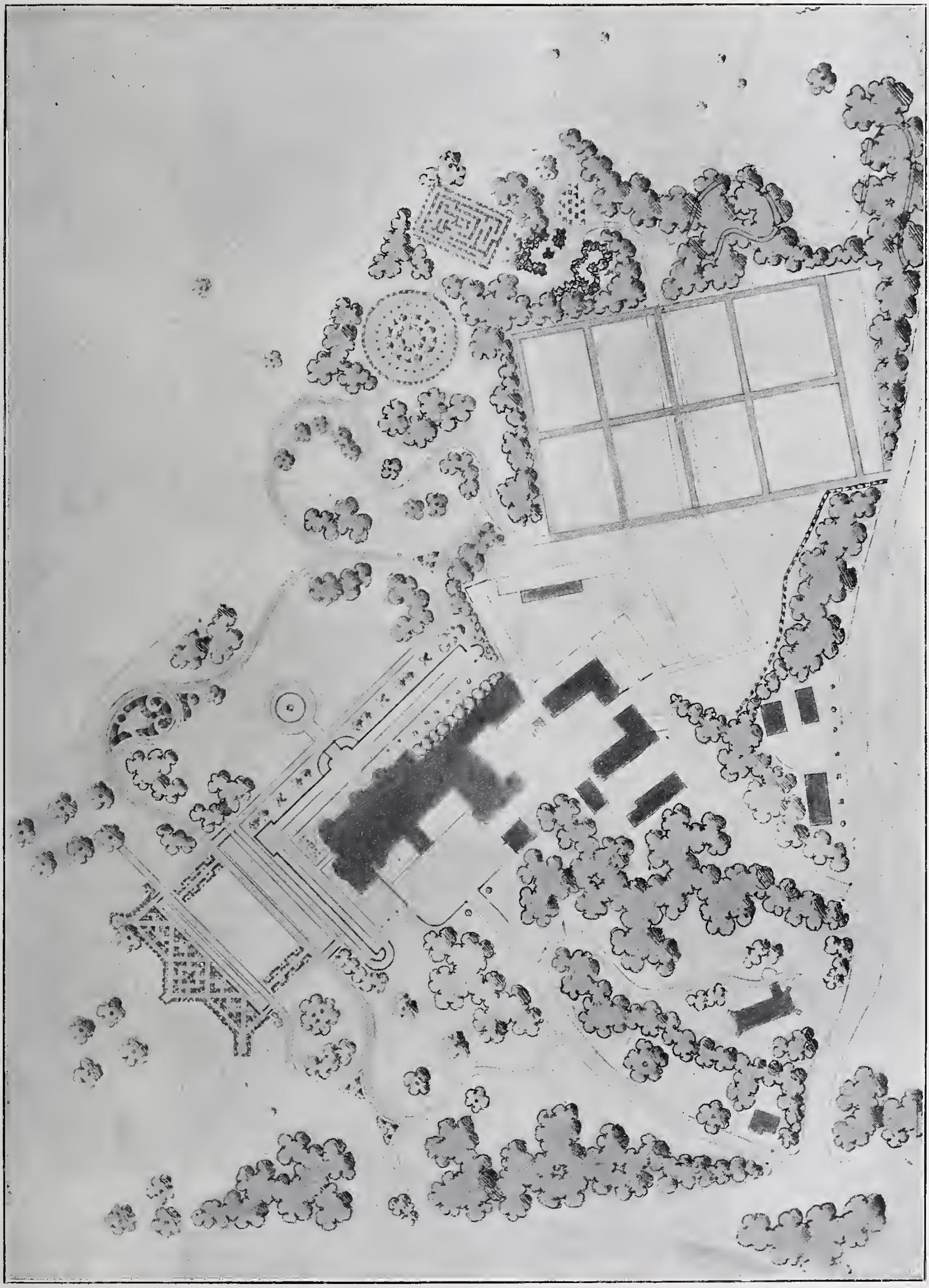

FIG. 5.—MARLSTON HOUSE.

level space of 2 feet between it and the edge of the slope. Slopes are generally made in the ratio of $2\frac{1}{3}$ to 1. They should not be more than 6 feet deep; and if greater depth is necessary, the slope should be made in two divisions, with a level space between them of not less than 4 feet. Old trees are quite in place in a terrace-garden if not too near the house. In fact much may be made of them, and every advantage should be taken of their presence in the design. The terrace may be plain with grass, but it is generally wished that in the part nearest the eye, evidence shall be given of the care bestowed by the occupier on his garden. Endless rows of carpet bedding are out of place, but we have a wealth of flowers that can only be adequately shown in specialised beds. Evergreen dwarf foliage plants may be largely introduced, and precise designs of clipped box and yew are appropriate if the character of the building is consonant with such composition. The beds should be even in width, with as few acute angles as possible, and longer than wide if seen chiefly from the house. If surrounded by gravel, the spaces of gravel and bed should be evenly disposed. Sunk panels, if adopted, should not be deeper than 18 inches, and the slopes made 1 in 1. If water is introduced, the outline of the basin should be regular and form part of the formal design. The water in a basin should not be less than 3 feet deep. Steps in a slope should range with it, the nose of the top step being in line with the top edge of slope. In turfing a slope, the turves should be laid to and join at the edges, and no turf should be made to turn over at the edges. A terrace-wall will naturally agree with the house whether it takes the place of the slope or forms part of it. It should not be less than 3 feet high or more than 8 feet, though thrice this height has been most effectively erected at Balcarres, where a splendid prospect is obtained from the higher level of the formal lower terrace-garden and the country beyond. On flat ground a line of demarcation may be made by a low stone plinth. It is sometimes desirable (as Mr. Waterhouse has done at Britwell Court and elsewhere), where the drive approaches the north side of the house from the eastward, to shut off the terrace-garden by a wall, forming a charming shelter and background to this on its northern side. The general form of terrace-walls is one parallel with the terrace-walk and the line of the house, for which it seems to constitute a base; this may or may not be surmounted by a balustrade. From this terrace there may be steps conducting to a lower level, perhaps to the pleasure-grounds, but possibly to the second terrace with its formal garden, whence communication is given to the naturally treated landscape-gardens. To this second terrace there is preferably given a balustrade, which bears the expression of a boundary. It is well to remember that an access other than by steps from the terrace to the gardens should be devised for the possible use of invalids. It is also well to stipulate that, as the original level of the ground or site of terrace is generally changed, the soil on the site be stripped so as to be available for the later surface-work. The walls of terraces should be made available for climbing-plants—not that I advocate the omission of recessed spaces for seats or breaks for effect; but I do advise that these walls, so visible and admirably adapted for the purpose, be utilised to display the climbing plants which form such an attraction.

I now pass on to the treatment of the garden proper, and as a text I quote partly from a book which I published seven years ago, which defines in this respect the system I advocate. So many considerations press in to vary design in the general plan of a garden, that arbitrary dealing by imposition of what may be termed paper designs, however ingenious, is ill-advised. The detailed plan should spring from the site as an adaptation of its natural, or created natural, features, and should not be, as it were, forced upon the position, crushing it to an artificial scheme. To copy simply the design of another place is inadmissible. Considerations that rule in this connection are almost infinite—extent, geological formation, soil, existing natural formation or features, climate and aspect, the display of distant beauty, conformity to outside influences, particularly to the requirements of the possessor, and the expenditure of money that may be made. It is this important variety of modifying influences, and how they are dealt with, that gives charm to each new work of landscape-gardening, and to the developments it presents, just as we contemplate a fresh work of the kind in pictorial art, and note how the artist has treated the natural features, the colours and tints, and their modifying juxtaposition on the canvas. The painter may indeed have his rules as to composition, for the use of his colours, and the production of his distances. His picture is not a servile copy of nature in its exact details, but an artistic rendering of the effect of nature, as seen by his educated eye and recorded by his skilful hand. His picture, however, is viewed from the same point, but in the natural pictures created by the landscape-gardener the point of view is on every side; there is no back to his canvas. In each position the object should be one of beauty, of interest, and of delight, and its relation to other features and to the whole field of the spectator's vision be closely and truly considered. The landscape-gardener must consider that his colours change and grow; he must realise as he creates his picture that in a few years what now seems like a light green stroke of pigment to the painter may have become a tall tree, beautiful in itself, but of altered beauty, either helping or marring the landscape. He follows nature by adapting or garnering her beauties, and tutoring her—so to speak—to a display of them. But by following nature is not meant a slavish imitation or reproduction of any of her particular scenes. Some are unattractive, some very inappropriate—all are subject to dissimilar conditions, and imitation in nature as well as in art produces pettiness. But the spirit of the beauty of nature, embodied as it were in those of her works or features that express her majesty, simplicity, peacefulness, sweetness, repose, refinement, strength, and variety in form, colour, abundance, or any of her modifications as parts of loveliness, should be included and brought into juxtaposition in an ideal scene so far as we are able to promote its natural development.

The terrace, as before explained, and the region immediately next the house, and indeed, in a less degree, that next any minor building in the grounds, being by position artificial, should be treated in a formal manner. This will so far influence our treatment of the rest of the landscape that as the house is approached from the boundaries of the estate the planting design and work should become finer, more intricate, and more careful. Beyond the line of the terrace-wall, slope, or walk, the design of the garden may be naturally treated, that is, by curved lines of walk and planting, and by undulating ground.

In forming the surface of the ground we should realise the fact that the graceful undulations of fertile land result from the action of water. So, in our circumscribed area our treatment should be consonant with what is a pervading expression but idealised.

From the terrace, walks should not go off in the same direction, but should, at any rate for some distance, deviate. In the general arrangement of such walks, the curves should be set out with broad sweeping lines, the chord of which should be so great that each sweep should be hidden from the succeeding bend. They should not follow the boundary. A multiplication of meaningless walks should be avoided, as should be the creation of the wriggling serpentine lines so often seen in badly designed villa-gardens. It should be generally apparent that each walk serves some special object, as the route to some distant point, to connect two lawns, to approach some particular group of planting, to reach some point of view, or to provide alternative means of communication at different levels. No doubt the designer will have first placed or emphasised the group of planting, the lawn, the variation in level; but the art which serves to emphasise the idea that the walk can only go rightly in one place must not here be apparent.

It is advisable to determine at once the lines of distant views, so that no bushes may be introduced in the direct line of sight. The eye can be directed to any particular point, as it invariably tries to look down any opening or hollow; and intermediate objects, just out of the direct vision, provide by their number a means of estimating the distance.

The determination of well-chosen positions of special objects is an early consideration. These may include a rose-garden, a hedged-in enclosure for herbaceous or special plants, an *allée* of clipped yew or box, a secluded rock-garden for alpine plants, beds for special collections of American, Japanese, cone-bearing, or other exotic trees or shrubs. These spots provid objects of interest. In the garden it is undesirable that its extent should be visible at a glance from any part. The spectator should receive an idea of its vastness by reason of the contrasting treatment of its several divisions, each insensibly separated from the other, but not screened off. The sweep of the lawn should be unimpeded and clear, and nothing should invade its expression of repose. It forms the ground of all our work. The kitchen-garden, too, need not be the unattractive cultivated field for the growth of vegetables. It can be made delightful. Picture to yourselves a long straight walk leading from the terrace, flanked by golden cypress, entering through a grille the red-brick kitchen-garden wall, and continued past borders of bright flowers, available always for cutting, on to a garden-house, passing on its way a circular stone basin filled with lilies, from which a broad walk, also bordered by sweet herbs and flowers, leads to a range of glasshouses. Beyond the flower-borders are fruit-trees, pleasant in spring and autumn, with glimpses of patches of strawberries, currants, gooseberries, and raspberries, with secluded spots of greensward, on which are seats beneath the walnut or mulberry trees, and hedged in by old Provence roses.

As before stated, water has been the chief agent in moulding the surface as we now see it. The rush of water has scooped out the valleys, and, as the river has diminished to a brook, so the tops of hills have become clothed with vegetation. It is true the dwindling stream has allowed the trees to clothe the hill-sides, and in time the rain has brought down soil to make fertile the valley. Both trees and shrubs undoubtedly thrive better, and can be displayed to better advantage, on raised ground than in a plain. When the ground is broken or undulating (either natural or created), advantage should be seized of marking the eminences by planting. Rising ground may be in appearance raised still higher if we cover it with wood. Trees standing singly emphasise falling ground. The brow of an eminence should not be seen above trees. If the brow forms a tedious continued line, it should be broken by clumps or large masses along its range, and by dividing the line into very unequal parts. In plantations near the eye, lights and shadows are more apparent than on distant groups of trees; the effects are stronger; light greens and white foliage or blossoms and red tints of leaf or flower seem to be nearer to the spectator than they really are, whereas dark foliage planted in a recess makes it appear deeper still. Therefore a detached clump or a single tree of lighter green will seem nearer than an equidistant planting of darker hue. For example, among the light green trees are plane, birch, ash, acacia, lime, poplar, willow, larch, abies concolor, pinus insignis, maple, aucuba, colchic laurel, sea buckthorn; and among the dark green the oak, beech, Austrian pine, cedar of Lebanon, hemlock, yew, holly. In setting out groups of planting, uniformity of curve and parts of circles should be avoided. Long bays with the turf running up them should be made, for the spectator's vision is unconsciously led up them if only for a moment. The groups should not assimilate. Variety of outline in the height is almost as desirable as variety of outline in the plan. This applies equally to the character of the foliage and to the tints, and especially to the undulations of the made ground, where uniformity and repetition destroy one of the most exquisite expressions of nature's beauty—the wave-line of the ground—by rendering it unnatural in form. The ground under raised planting mounds should invariably be broken up, even if the top soil is not removed, though this is generally required for the surface. The site of all plantations when the ground is not raised should be doubly trenched, that is, dug two spits deep, and the ground beneath broken up. The outline of a group is not meant to be a hard artificial boundary, enclosing an earthy bank on which shrubs and trees are planted, but a line to which it is intended that the plants shall spread, covering the earth's surface, and such an outline should be graceful and give the required filling to the general design, even when the verge first marked may be overgrown. The ground is generally turfed to such outline. This should not be marked with a formal row of bedding plants or other stiff edging. Where flowering plants are introduced—and they should be copiously—they should grow naturally to the edge, and separate plants may be placed beyond the main group. Formal planting may be introduced with propriety at the intersection of a walk, or at a point where there is some artificial combination. Such beds should take a regular shape, and their surface be flat.

There is now such a wealth of imported trees and shrubs, that such resources cannot be neglected. Even in old Parkinson's time, he enumerates and advocates the growth of "Outlandish flowers that for their pride, beauty and earlinesse are to be planted in gardens of pleasure for delight." Are these new possessions then to be ignored? Certainly not. In an extensive garden that is only formal, the idea forced on the eye of the beholder is one of wonderment as to design. But soon the artificiality of the whole forces itself on the mind, and its magnificence is not compensated for by the exclusion of repose.

I maintain that we should carry out in the parts surrounding the house the architectural feeling of the design in terraces, walls, steps, basins, beds, and so form a base; that we can still have the dignified and quiet delight of formal work—not a narrow curtailment of the whole design. But I insist that there is in addition a broader treatment beyond—a work difficult to proportion in relation to foreground, to broad lawn-spaces, to grouping and choosing trees and shrubs for effect in size and colour, to directing the eye to desired points, to taking advantage of climate and character of the place either natural or acquired, to provision of light and shade in the undulation of the ground, and to a knowledge of horticulture. This art-gardening is, I venture to assert, far beyond the limitations of formal work only, for it can apply the balance and proportion of the latter, and, in addition, present to us a noble conception of art-work, in its execution of outline, surface-formation, and grouping, and draw into the picture the greater, broader, varied landscape.

In conclusion, I wish to thank you publicly for the honour you have conferred upon me, by electing me an Hon. Associate of this distinguished Institution, and trust that a feeling of co-operation may be engendered in the practice of the two arts which we are both striving to promote.

DISCUSSION OF MR. MILNER'S PAPER.

The President, Professor Aitchison, A.R.A., in the Chair.

The Hon. ALICIA AMHERST, having been asked by the President to address a few remarks to the Meeting, said she had listened with much interest to Mr. Milner's Paper, and thought many of his ideas on garden design were excellent. It was important that the garden should be laid out as far as possible to coincide with the architecture of the house, and that fact was being more and more appreciated every day by designers. She was glad to hear the lecturer allude to Parkinson and his "outlandish" flowers, as surely the first object of a garden was to make a suitable place in which to grow plants. There were never so many "outlandish" flowers as there are to-day, and they ought to be taken into consideration when making the plans for new gardens. Just as in designing an Elizabethan house it had to be adapted to modern requirements, so in a modern garden those flowers ought to be considered, and when the gardens were being laid out the plants themselves should not be lost sight of. To grow many things in some parts of England a walled garden, or one with sheltering hedges, might be almost a necessity. Again, in the southern or western parts there were many trees, sub-tropical in appearance, which could be so easily naturalised that it was not at all in the interest of horticulture to contract or limit the design of the garden. Mr. Milner's Paper had called attention to the necessity of promoting garden design, which she was sure would lead to good results; but she was speaking from a horticultural point of view.

Mr. ASTON WEBB [*F.*] had very much pleasure in proposing a vote of thanks to Mr. Milner for his very admirable Paper. He did not remember that the Institute had ever before had a Paper on Gardening, or at any rate not for a long time. Mr. Milner had combined in his Paper a great deal of useful information with practical details, which, when printed in the Journal, would add a very interesting chapter to the valuable Papers contained in its pages. At the last Meeting the Institute had had the advantage of hearing an Honorary Associate on Sculpture. To-night an Honorary Associate, a master of his craft, had favoured them with a discourse on an equally interesting subject, Gardening. Both were subjects in which architects were most closely and properly interested. It was impossible to choose a more delightful subject than gardening. The first paradise on earth was located in a garden; and, although that garden was not altogether a success, it was not the fault of the garden, but partly owing to what was planted in it, and partly to the people who occupied it! Still, at the present day, to his thinking, the nearest approach to a paradise on earth was a beautiful garden on a beautiful day; and anything that would help them to realise such a paradise was to their advantage. He ventured to think, however, that the most beautiful garden was incomplete without the house, just as a beautiful (country) house was incomplete without a beautiful garden surrounding it. Therefore it seemed essential that the producers of the house and the garden should work hand-in-hand from the very commencement; and, if he might venture a word to his brother architects, he would say it seemed to him most desirable that when they were building a house they should call in the landscape-gardener as their friend, and discuss with him the way they proposed to enter the house and the stables, how to lay out the garden, &c., before a brick was laid, or even a line drawn on paper. The question whether the garden should be formal or otherwise naturally interested architects. Not only at the present day, but, as Mr. Milner had shown, from the time of Queen Elizabeth, interest had been taken by architects in the garden surrounding the house, and often designed by them; and he could not help thinking that the term "formal garden" was rather overdone, and very much misunderstood, not so much among architects, but amongst their clients and the public generally. The formal garden they were striving for, and hoping to see more usually adopted, was the formal garden of England, not the formal garden of Holland or Italy. Though he had been to Holland, he could not say he had seen many gardens there at all. But the Dutch garden was stiff and unsatisfactory. The formal garden of Italy was largely of plan, of intricate beds, and of numerous paths; but what they desired was the formal garden of England—the gardens of Hampton Court Palace on the river side, and the garden of Hatfield—such as was left of it—and the garden of English homes of which numerous fragments remained—gardens with high hedges and long walls, gardens with wide and sloping lawn, not turned into tennis lawns, but lawns to look at and to walk on. The question how far the garden should be cut off from the general grounds must naturally affect all that they did. Mr. Sedding, in his delightful book, said that he thought gardening disappeared when the ha-ha fence was discovered, which seemed to open a possibility of bringing the park right up to the house, so that they did not know where the garden ended and where the park began. That was perfectly true, and one recognised what a disastrous effect it had had upon the garden. On the other hand, Mr. Austin, the Poet Laureate, who, he thought, had written as delightfully on gardens as anybody in the world—and he hoped they would be favoured with more books from him on gardens—quoted from a book recently written which advocates a boundary line being placed between the garden and the house as a necessity, and for choice a good high wall; and Mr. Anstin went on to say that that was an idea that could only have emanated from the brain of an architect, who naturally went in for bricks-and-mortar. He (the speaker) had not been able to discover exactly that passage, although he imagined he knew the book referred to; but he had also seen a notice from a paper called *The Garden*, in which it was said, in a somewhat sneering way, that architects were now taking notice of gardens, and that their one idea of a garden was a square plot of land surrounded by a high brick wall; and *The Garden* had promises to publish examples of gardens by builders on those lines. He was sorry to say he had not seen any of those illustrations, but hoped to do so. He thought, however, there must be some mistake about all this. He did not believe that architects wished to surround the house with a square brick wall and put a garden in the middle of it, though he was not sure that even Mr. Milner had not some idea that they wished to do something of the kind. He could not think how the idea had got about. They certainly were not afraid of walls near the house, or of hedges; and that these should be introduced into gardens seemed to him most desirable and natural. Mr. Milner said, in reference to court-yards of houses, that the wall should be only three feet high, and he (the speaker) only mentioned it to give Mr. Milner a chance of saying he meant to say nine or ten feet, because a court-yard with walls only three feet high would, in his view, not be a court-yard at all. He had had the good fortune to be brought up in a house with an old garden which had square walls and lawns, and a beautiful view, such as he had described, with china seats, and with grass walks under filbert-trees, and a low terrace; and he must say that, though he did not understand it then, that garden had left an impression upon him which other gardens had not done. While he was still a boy an extension had been made to this garden, and the extension was called a wilderness; it had sweeping walks, and was carried out on entirely different lines from the rest of the garden, but it never attracted the children to go into it; they always preferred the long stretch of lawn and the inviting walks, with their seats and arbours and attractions of that sort. He felt it very presumptuous in him to say anything about a garden in the presence of Mr. Milner, but he might say that it seemed to him that the principal things to aim at in laying out a garden were sun and shadow, mystery and design. Mr. Austin, in *The Garden that I Love*, gave four or five pages to a delightful description of his idea of a garden, which was not a strictly formal one, and he also added a short poem, called, he believed, "Had I a Garden," in which he described his idea as to what a garden should be. It began, "Had I a garden, it should lie all smiling in the sun"; it was hardly necessary perhaps to insist on this, except that it was not always done. It was, however, essential that the garden should be on the sunny side of the hill; that the entrance to the house should be, if possible, on the shady side; through it might be a court-yard, somewhat grim and shadowy, which led into the house and on to the sunny lawn and garden, where one's guests at once felt at home and happy in the sun. Anybody who lived in a house with a garden on the north side of it would live a miserable and wretched life. Then the poet went on: "Had I a garden, alleys green should lead where none could guess." That was the mystery of the garden, as he had always thought of it; that there should be paths that should lead somewhere not visible at the first onset—not an intricate series of little pattern walks which troubled and bothered one, but straight, wide alleys green which led somewhere, probably to some pleasant seat or some beautiful view. Those alleys would not interrupt the general view, and would not shut in the garden altogether. Then, again, "Had I a garden, it should grow shelter for feeble feet." This was the shadow so missed in Dutch and Italian gardens. The formality of the garden should be more in its plan than in its section; that the tall trees and tall flowers might be altogether free and natural, but that they should be placed in some regard to the general arrangement. Another thing, the garden should have design, and that design should be to some extent apparent. Mr. Austin, again, said that man was "designed to design," and a garden being man's work, man's hand should be visible in it. Attempts at naturalism in a garden led to disappointments. It must not be too transparent, but one must see that it was arranged with an object: to catch the view, to catch the sun, to provide shelter for the people, to provide seats, or to provide walks, and so forth, and for trees and flowers to grow in. They were all very much indebted to Mr. Milner for his Paper, and, speaking for himself, he had spent so many delightful and happy days with him, going over grounds which they had finally made for better or worse, that he was very glad to have seen him among them, and to have had the advantage of listening to his Paper.

Mr. H. HEATHCOTE STATHAM [*F.*], in seconding the vote of thanks, hoped that Mr. Milner would not think that he did it with any less sincerity, because he did not altogether agree with him. At present, people were in a state of reaction with regard to the question of the formal and informal garden. For a long time, until perhaps twenty years ago, the formal garden had been discarded as an old-fashioned thing that was done with; and the natural garden had come into vogue. Now, a movement had been taken up by some clever enthusiastic people who were disposed to go to the other extreme, and to have gardens so formal that they seemed almost like carvings. Mr. Milner, he was aware, had no sympathy with that, and so far he (the speaker) agreed with him. He did not think that hedges and trees clipped into artificial shapes really belonged to the proper subject of the formal garden. Reference had been made to Hampton Court. Hampton Court as it now stood was almost an ideal specimen of a garden in connection with a house; but, if they looked at the old engravings of Hampton Court as laid out at first, it was a totally different thing: the semicircular part in front of the Palace was laid out in exactly formal little patterns of box hedges of a most intricate and elaborate kind. That had been all done away with now, and any advocate of the extreme formal garden who looked at Hampton Court as it was now, and then looked at the old engravings as it was laid out, could not but admit that it was a far more pleasing object in its present form; it was formal enough, but not too formal. One little point rather amused him in reference to the entrance into the drive from the public road, for he observed that Mr. Milner had not been quite so confidential with them in this Paper as he was in his book, where he let them into a little trick. He said: "In making an entrance from the public road advantage should always be taken of a bend in the road such as would make it appear that the main road led up to the estate." Since he read that, he had looked out, in taking country walks, and had been amused to find how often that little dodge had been carried out; but he did not think it a very respectable one. He was glad to find that Mr. Milner had fully admitted the necessity of the formal treatment of the garden in immediate connection with the house. Fifty years ago that was not admitted; now it seemed that the people on both sides of the question, both the formal and informal, were inclined to admit that. He agreed with Mr. Milner thoroughly so far. But he disagreed with him where his walks began to wriggle. In the plan No. 1 [p. 187], there was a formal terrace before the house, and the formal garden a little way from it. Between that there were walks laid out that were not walks at all, but irregular curves, serpentine in shape, with knots of bushes planted inside the curves, which suggested the old question in creation of which came first, the egg or the bird. Were the knots of bushes put there first and the walks then carried round, or were the curved walks put there first and the bushes planted afterwards to look as if there were something to go round? Either way it seemed to him rather illogical. With regard to the whole process of what was called landscape-gardening, in the sense of carving a sort of picturesqueness out of the ground and planting trees to make what might be called an artificial accident, he was sorry to say he had a rooted conviction that that was all a delusion—that it did not give pleasure, for one always found that it was a contrived thing, a thing contrived to look like accident—and that, he thought, was a contradiction in terms. It appeared to him that Hampton Court was just a model of the way in which a garden and the park outside the garden should be treated. The garden was formal—formal in detail as well as in its main plan; the beds of flowers were arranged in a formal way, which presented a beautiful appearance in the bright sunshine. When one came outside the garden boundary one came to the park, which was found to be still formal, but in a larger and less detailed manner. The alleys of trees radiated at certain definite angles, with no pretence whatever of being natural. It was an artificially created thing, and it was laid out so as to show that it was artificial, and in his opinion the landscape-gardener, as long as he was within the boundaries of the park, had got to be artificial. It was no use making a landscape pretend to be an actual landscape which was to imitate the beauties of nature, and yet, when one began to analyse it, one found it to be all contrived. So soon as one found out that, one's satisfaction in it disappeared. A rather amusing thing was recalled to him by a remark Mr. Milner had made about the use of light-coloured and dark-coloured trees to give effects of nearness or of distance. He would not quarrel with that; he had done quarrelling with Mr. Milner; but it reminded him of the use made of that by Shenstone, the poet, who had a curious fancy for little artificial effects. He had a very small garden, but he wanted to have a long avenue; so he planted an avenue with the sides converging to make an artificial perspective, breaking it with a bay half-way down, ending on the nearer side with large trees of rather dark colour, and then when it came round again began with small trees of a light colour, so as to give the impression that the break was very large; and he ended with a miniature summer house, too small for anybody to go into, and painted in delicate tints to give an effect of distance. The Nemesis which overtook Shenstone was that the Lyttletons, on the next estate, used to bring their friends to the boundary to look at Shenstone's perspective from the wrong end!

Colonel LENOX PRENDERGAST [*H.A.*] said he should like to associate himself with previous speakers in offering a vote of thanks to Mr. Milner for his most interesting Paper. He ventured to think that when they could read that Paper in the Journal they would find it full of most valuable information. The subject touched the Institute more nearly than people were inclined to believe. Each generation had to deal with the great difficulty of making an English home more charming than it was before; and, if one could only throw one's mind back fifty years, it would be recollected that in all the great homes of England it was the fashion of that day to have a great field up to the door and windows of the house. Fifty years ago there was a certain great lady, the Duchess of Sutherland, the mother of the late Duke, a woman of great taste brought up at Castle Howard. When she went to Trentham, in the middle of England, she set to work to create an Italian garden, as they called it. Splendid as it was then, and splendid as it is in the present day, one knows that that bedding-out business is utterly worn out and done for. The result of all this is that, as in England people always divided themselves into two parties, no matter what the subject, we had got both the formalist and the free-hand systems; and what he liked about Mr. Milner's Paper was that he had fallen in with this English feeling, and had gone a little between the two. He honestly thought (whatever his opinion might be upon other subjects) that the garden question could only be treated in the present day by some such process. Of course, in the Institute he assumed that to-night the remarks were chiefly directed to new buildings with new surroundings; it was very seldom that an architect was called upon to have anything to do with laying-out the grounds, or suggesting their plan, where old mansions were concerned; but with the new mansions the arrangements probably emanated from members of the Institute. What was the position now?

Almost within their own recollection the houses of England, instead of being placed in the hollows or flats, were nearly all now placed high up on the hill-side. This at once altered the whole method of treating the grounds round them. That, he believed, was a complete change in principle. Of course, the chief rooms would look south probably, or some variation of it; and the ground must fall away from it; how was it to be dealt with? The builder would of course like everything taken out from the foundations to be thrown into the form of some terrace that he fancied, and there would be an end of it. But it was much more important than that; and he ventured to think that a suggestion made by Mr. Aston Webb was the true solution that the landscape-gardener should be called in in the first instance—not to design the ultimate arrangement of the ground, but to give a general idea how he proposed to deal with this superfluous material. Of all mistakes perhaps the greatest was for anybody to lay down cut-and-dried rules as to how they would lay out the grounds till they knew what the house was like. He was convinced that even that terrace which the digging out was to help to form must not be actually concluded till the house was up, and the occupant knew what he was looking at. An enormous advantage in these days is the general use of the bow window. By this means there was a chance of creating a view of garden land such as no other period had possessed, and it was worth while just to consider the lie of the ground piecemeal, rather than through a cut-and-dried plan which might be all very well in the mind of the architect and the landscape-gardener, but not to the taste of the persons who were going to pass their lives there. One thing particularly he thanked Mr. Milner for: he had said perfectly plainly that the proper course was to steer between the two extreme parties—formalist and the free. He should like to quote on this point from that charming book of Mr. Sedding's, *Of Garden Crafts, Old and New*, which he hoped everybody would look at: "It is of the utmost importance that art and nature should be linked together, alike in the near neighbourhood of the house and in its far prospect, so that the scene, as it meets the eye, whether at a distance or near, should present a picture of a simple whole, in which each item should take its part without disturbing the individual expression of the ground. To attain this result, it is essential that the ground immediately about the house should be devoted to symmetrical planning, and to distinctly ornamental treatment; and the symmetry should break away by easy stages from the dressed to the undressed parts, and so on to the open country, beginning with wilder effects upon the country-boundaries of the place and more careful and intricate effects as the house is approached." Further, he would like to call their attention to an article in the *Edinburgh Review* last July on this subject, which, in his opinion, was the best thing which had been written on the subject.

Mr. JOHN HEBB [*F.*] remarked that it had been suggested that the architect and landscape-gardener should be in accord. He agreed with that suggestion, but remembered that a landscape-gardener, having been called in in connection with a house with which he was associated, did not confine himself to landscape gardening. The house itself was a classic house, but the landscape-gardener designed a lodge to the house in what used to be called the "old English style," with lattice-windows and oak barge-boards. The landscape-gardener should confine himself to his own business, and not encroach on the business of the architect.

The PRESIDENT, in putting the vote, said they were extremely obliged to Mr. Milner for his very excellent Paper, and also to the Hon. Miss Amherst for her remarks on the subject. Every one born in England must have more or less taste for a garden, whether it were a formal one, or whether it were a natural one. He should like to pay one compliment to Mr. Milner—that he was so extremely modest. He (the President) always understood that the landscape-gardener considered himself master of the situation, and that when he was called in, whether to a garden, or to land on which a house was to be built, he said that that was of no importance: let him lay out the garden, and, when he had satisfactorily done that, he could always build the house, or recommend a man who would build a house that would accord with the garden! There was a great charm about what it was the fashion to call the formal garden; he did not know whether Milton, when he wrote—

> And add to these retirèd leisure
> That in trim gardens takes his pleasure—

meant the formal garden, or whether he meant one that was nicely kept. However, there was certainly something delightful in seeing a bit of this formality, those cut yews and cypresses especially, in a cottage-garden in some country village, where they formed such a contrast to the natural wildness, and also gave a look of humanity to Nature herself. All the trim gardens now to be seen were nothing to the trim gardening of the Romans, from whom we had got this as well as most things pertaining to our civilisation, being, as we once were, a mere tiny fragment of the Roman Empire. That formality was carried out by them to an excessive degree, for one read of trees being cut into the shapes of animals; and one of the prettiest of Martial's epigrams tells how a little boy who was going into the garden was daring enough to put his hand into the bear's open mouth; but, unfortunately, a serpent had got there and stung him, so the bear was his end. Mr. Milner's Paper must prove most useful to every architect; for there could be hardly one who had not had a house or a cottage to build in the country, perhaps one of those cottages of gentility that were inhabited by people who had not always been accustomed to cottages, where a garden formed its greatest delight.

Mr. H. E. MILNER [*F.*], in reply, said he had had a certain difficulty in writing his Paper, for he was uncertain whether he should discourse on the art part of the question, or whether it would be more useful to members of the Institute to put before them the more detailed work of the practice; but he found his present task more difficult still. On the one hand one of their greatest authorities on art had stated in that room that it would be nice, pleasant, and delightful to see a cut bird next to a little cottage. That, he thought, was paraphrasing somewhat the President's remarks. They had also had a statement from a gentleman, who had certainly studied gardening, and for whom he had the greatest esteem. Mr. Statham insisted that all the formality should extend, not only close to the house, but should form the whole of the garden. Now where was this happy mean where such authorities differed? Then, again, they had Mr. Aston Webb—whom he had always considered most moderate—who was advocating the formal garden to extend in a greater direction than certainly he should advocate. As he had tried to explain, the formal garden (and he quite recognised that this was a misnomer, but for want of a better word he used it now) should extend and form the platform of the house. But then there was something far more beyond this. The platform of the house passed, one must at some time or other get to the natural treatment of the ground. He thought Colonel Prendergast had made the most important point, and one which he had omitted in his Paper, and that was that the houses were now placed on the hills or on the hillside, whereas formerly they were placed on the flat ground. The only rational way of treating the grounds of any place was to adapt one's plan to the natural site. It was unwise and almost impossible in an undulating district, or on the hillsides, or on the top of a hill, to form an English formal garden such as Hampton Court. In his opinion Mr. Statham was certainly right in what he said as to the alterations that had taken place in Hampton Court, and the great improvement effected; and he himself certainly admired Hampton Court. At the same time the avenues there were made when there was not that surrounding fringe of houses that there was now, and many of them certainly led from nowhere to nowhere; and if that Hampton Court plan had been on a hillside the result would have been ridiculous. He maintained that one must adapt oneself to the place in all one's work. It was very gratifying to hear such kind words from Miss Amherst, for one and all recognised what an authority she was on gardening. He certainly felt with Mr. Aston Webb that the architect and the landscape-gardener should work hand-in-hand from the commencement. The work of the landscape-gardeners (in spite of what one heard as to the dealings of former persons practising that art) consisted in being able to form in their mind a picture of how the ground would look exactly when they had finished with it, and in being able to carry out their ideas. In his own practice certainly he always tried to induce the architects to carry out into the gardens more of their architectural work, and he did feel very strongly that this subject had been neglected very much. It was all very well to talk, too, of the formal garden of the plan; but the hedges would grow, and would cut off the views. He did not know of any formal garden over eighty years old, at any rate, that retained anything of its former ideal character. Look at the old print of Fair Lawn, one of the best preserved places in England [p. 189]. What was the result at the present day? Those yews were now leggy trees, some forty or fifty feet high, with a dozen leaves on the top trying to get a breath of fresh air and a little sunlight. The whole design was spoilt; in fact, there was none to be seen, and it must be so. The old gardens, really very old gardens, had a picturesqueness in the growth of the trees themselves; but that was not owing to their design, that was owing simply to the beauty of the trees themselves. He thought they had given up the story of the enclosure by architects, but he could point to works by well-known names, at any rate, where the statement was distinctly made on behalf of architects. [Mr. ASTON WEBB: With a high wall round?] Yes, certainly; he could give them chapter and verse for it. Mr. Aston Webb had spoken about the court-yard. He should be very sorry to see a court-yard wall nine or ten feet high all round the north side of the house. The walls must necessarily be high, if they were to enclose offices or outbuildings, or to provide shelter; but surely they would like to have a peep into the park on the north and north-west sides through the court-yard. He did not think a court-yard with walls nine or ten feet high and, say, 100 feet square would be a very pleasant place to live in or to walk about in. He should say that the walls really of the forecourt, at any rate on its northern side, should not be more than the size that he mentioned.

9, Conduit Street, London, W., 18*th February* 1897.

CHRONICLE.

Mr. Milner's Paper.

A glance at the indexes of the Transactions, from the first volume down to that recently completed, reveals the fact that until last Monday the subject of landscape-gardening had never before been dealt with at a Meeting of the Institute. Mr. Milner, the author of the Paper read on Monday, made his first appearance as an Hon. Associate, and met with a very hearty reception. The Hon. Alicia Amherst, who opened the discussion, is the author of the charming and interesting volume entitled *A History of Gardening in England*, which has been declared to be the most complete history of English gardening we possess. The work, a copy of which has been very kindly presented to the Library by Miss Amherst, will be reviewed in an early issue of the Journal.

The Prizes and Studentships 1897–98.

The pamphlet giving particulars of the subjects set for the Institute Studentships and Prizes 1897–98, with conditions of competition and award, is now in the press, and will be ready for issue with the next number of the Journal. Meanwhile the following *précis* will be useful to intending competitors:—

The Essay Medal and Twenty-five Guineas.—*Subject*: "A Review of English Architecture of the Nineteenth Century." Competitors must be British subjects under forty years of age.

The Measured Drawings Medal and Ten Guineas, open to British subjects under the age of thirty.—Competitors must submit their own measured drawings of any important building, classical or mediæval, in the United Kingdom or abroad.

The Soane Medallion and £100, open to British subjects under the age of thirty.—*Subject:* Design for a Concert Hall to seat 2,000 persons, including a small Chamber Concert Hall to seat 300 persons, on a corner site.

The Pugin Studentship (Silver Medal and £40), open to members of the profession (of all countries) between the ages of eighteen and twenty-five.—Candidates must send in selections of their own drawings and testimonials. Preference will be given to measured drawings and sketches of the works of the Middle Ages.

The Godwin Bursary (Silver Medal and £40), open to members of the profession without limit of age.—The object of the Bursary is to encourage the study of works of modern architecture abroad, and candidates must submit selections of practical working drawings, or other evidence of special practical knowledge, and testimonials. The knowledge of at least one foreign language is a necessary qualification.

The Owen Jones Studentship (Certificate and £50), open to members of the profession under the age of thirty-five.—Candidates must submit testimonials, with specimens of their drawings showing knowledge of colour-decoration as a means of architectural expression, and compositions in writing exhibiting acquaintance with the leading subjects in Owen Jones's *Grammar of Ornament.*

The Tite Prize (Certificate and £30), open to members of the profession under the age of thirty. *Subject:* Design for a Villa and Ornamental Garden in England in the Italian style, the house to contain four reception-rooms, twelve bedrooms, kitchen, and usual offices; the whole comprised on a riverside area of two acres, not necessarily level.

The Grissell Prize (Gold Medal and 10 guineas), open to British subjects who have not been in professional practice longer than ten years.—*Subject:* Design for a small Country Church, to seat 200 people, to be constructed entirely of timber, with shingle roof.

The Aldwinckle Studentship (Certificate and £50), for travelling and sketching in Spain, will be awarded to the person who, among all the competitors for the year's prizes, the Council consider will best carry out the donor's intentions. This is the last of the three Travelling Studentships generously placed at the disposal of the Council by Mr. T. W. Aldwinckle [*F.*] in 1895.

The Ashpitel Prize (books value £10 10*s.*): awarded to the Student who most highly distinguishes himself in the Final Examinations 1897.

The Arthur Cates Prize (books value £10 10*s.*). This prize will be given by Mr. Arthur Cates at each Final Examination until further notice to the *Student* (successful in passing the Examination) whose testimonies of study, completed in accordance with the present programme, are considered by the Board to best merit the prize.

The Carpenters' Hall Lectures on Building.

The annual course of lectures on matters connected with building, held at Carpenters' Hall under the auspices of the Worshipful Company, opens on the 24th inst. with a lecture by Professor T. Roger Smith on Our Ancient Cathedrals, when the President, Professor Aitchison, A.R.A., will preside. On the 3rd prox., Lord Reay presiding, Professor Fleming, F.R.S., lectures on the Work of the Electric Current, with the aid of lantern illustrations and experiments. On the 10th prox. Professor Banister Fletcher discusses the question "Is a National 20th-Century Style of Architecture probable?" with Sir John Lubbock in the chair. On the 17th, Professor J. M. Thomson will treat of the Chemistry of certain Metals used in Building Construction, Sir F. Abel presiding; and Mr. J. Wright Clarke follows with a lecture on Practical Plumber's Work on the 24th prox., when Sir Stuart Knill presides.

The late Mr. G. P. Boyce, Artist.

The cycle of distinguished men which surrounded D. G. Rosetti has been further diminished by the death of Mr. G. P. Boyce, a member of the Royal Society of Painters in Water Colours, who passed away, on the 6th inst., in a house which he built for himself in Glebe Place, Chelsea, from the designs of Mr. Philip Webb, almost under the shadow of the tower of old Chelsea Church.

Mr. Boyce was originally intended for an architect, and was articled to the late Mr. Thomas Little (born 1802, died 1859), an architect of some repute and a skilful draughtsman, who designed St. Mark's Church, Regent's Park, St. Paul's and St. Saviour's Churches, Warwick Road, Paddington, Messrs. Gillows' premises in Oxford Street, and other buildings in London. On the completion of his articles he passed some time in the office of Messrs. Wyatt & Brandon, but his bent being more imaginative than practical, he relinquished architecture, a pursuit for which he was but little suited, and devoted himself to painting, selecting usually subjects in which landscape and buildings were combined. Although well known and appreciated by his fellows, Mr. Boyce's work was but little known to the general public until the collection of the late Mr. Barnes, of Durham, was sold by auction at Christie's. Mr. Barnes had been a liberal patron of Boyce, and two water-colour drawings in this collection disclosed the artist as a master of his craft. These drawings were a large study of Edward the Confessor's Shrine at Westminster, which was purchased by Mr. Boyce, and the Tithe Barn at Bradford-on-Avon, which was purchased by the Department of Science and Art, and is now in the South Kensington Museum. Mr. Boyce was very intimate with William Burges, and occupied chambers on the same landing at No. 12, Buckingham Street, overlooking the Thames. He removed thence to Chelsea, where he occupied a quaint red-brick house with a large garden attached. The plan of this house, which is skilful and original, is due to Mr. Boyce, but he left his architect a free hand in other matters.

Additions to the Library.

The late John Addington Symonds's *Life of Michelangelo Buonarroti*, based on studies in the archives of the Buonarroti family at Florence, has recently been added to the Reference Library. [London: John C. Nimmo.] The first edition of Mr. Symonds's work, published in 1892, was exhausted in three months. The copy which has come into the possession of the Library belongs to the second edition, published some six months later, and contains the author's reply to his reviewers in a series of notes at the end of the second volume.

The London Health Laws: a Manual of the Law affecting the Housing and Sanitary Condition of Londoners, with Special Reference to the Dwellings of the Poor, a little handbook issued by the Mansion House Council on the Dwellings of the Poor, contains the sanitary provisions of the Public Health Act for London (1891), the Metropolis Management Acts (1855–87), and other information of considerable value to householders. [London: Cassell & Co.] Three members of the Mansion House Council—Mr. Chance, Mr. Craies, and Mr. Hodge—are responsible for bringing the matter of the present edition (June 1894) into conformity with the latest legislation on the subject.

An important donation has been made by Mr. W. W. Wardell [*F.*] in *Le Nouveau Théâtre d'Italie, ou Description exacte de ses Villes, Palais, Eglises, Principaux Edifices, &c.*, four large folios, bound in two volumes, forwarded by the donor at his own expense from Sydney, N.S.W. The work, which is in excellent condition, was published at the Hague in 1724, and the four books, containing innumerable engravings, deal respectively with *La Lombardie, L'Etat de l'Eglise, les Royaumes de Naples et de Sicile*, and *Rome Ancienne et Moderne.*

Repeated inquiries for Mr. Statham's *Architecture for General Readers* (which has gone into a second edition) has necessitated an additional copy being obtained for the Loan Library, from which it may now be borrowed [London: Chapman & Hall].

The principal contribution to the current number of the *Architectural Record* (vol. vi. No. 3) is a fully illustrated article by Montgomery Schuyler on the works of Henry Janeway Hardenbergh. Mr. Barr Ferree, in the same number, continues his series of articles on French cathedrals, the present one being devoted to the Cathedrals of Provence; Mr. Jean Schopfer writes on Modern Decoration, and Mr. Reynolds contributes a delightfully illustrated paper on the Villas of Rome.

"The Architecture of Our Government Buildings" (United States) is the title of the usual article devoted to an architectural subject in the *Engineering Magazine* for February. Numerous examples are illustrated.

The *Journal* of the Royal Society of Antiquaries of Ireland contains part II. of Mr. T. J. Westropp's paper on "Prehistoric Stone Forts of Northern

Clare," a Paper on the Priory of Inistioge, by Mr. R. Langrishe, and contributions by Rev. Professor Stokes and others.

Mr. Ralph Nevill has presented the Indexes of the Archæological Papers published during the years 1891–95, a yearly compilation extremely useful for reference, published under the direction of the Congress of Archæological Societies in union with the Society of Antiquaries.

REVIEWS. LI.

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THE SYMBOLISM OF THE WHEEL.

The Buddhist Praying-Wheel. A Collection of Material bearing upon the Symbolism of the Wheel and Circular Movements in Custom and Religious Ritual. By William Simpson, R.I., M.R.A.S., F.R.G.S., Hon. Associate R.I.B.A., &c. 8o. *Lond.* 1896. *Price* 10*s.* [*Messrs. Macmillan & Co., Ltd.*, 29–30, *Bedford Street, Covent Garden.*]

The author of this work, a well-known Honorary Associate member, and a frequent contributor to these columns, has devoted himself energetically to his subject. The Buddhist Praying-Wheel would, at first sight, seem to lie altogether outside the widely comprehensive science and art of architecture. We may readily picture to ourselves the mechanical contrivance of the "wheel of fortune" at a fancy fair, or the gigantic wheel of elevation at Earl's Court, or the small toy for children's amusement; but what a wheel can have to do with either architecture or religion we may well be at a loss to surmise. We may, however, here in our own country, recognise an intimate connection between prayer and architecture. We need special places of habitual resort for worship and prayer, and we need that they should represent something more than the ordinary commonplaces of earthly life. We need to make them such as to manifest our sense of the great duties we there enter upon, and of the Great Being whom we desire to worship with every sign and symbol of external reverence. Under the light of Revelation we especially need them as embodying the truths of Christian belief.

But the Buddhist, besides his temple, needs something different as expressing his belief, which seems to recognise the existence of an Almighty and Eternal Deity, and of various subordinate deities also. His instincts or his traditions lead him to offer adoration rather than prayer, and he traditionally employs a mechanical process to express his votive offering. This votive offering is accompanied with what is called the "Mantra," or form of words expressive of adoration, which is inscribed on or deposited in a wheel or cylinder, which ordinarily is turned by the devotees who repeat the words.

The "Mantra" is any word or form of words that may be regularly used for invocation or consecration. The prayer-wheels, whatever may be their size or form, are filled with paper or cloth, on which is repeated as many times as can be written a Mantra, it may be, of the following words: "Aum! Mani Padme, hung!" For the interpretation of this, and for the many modes and intentions in the moving of the wheels, the reader must study Mr. Simpson's pages. In some instances a mechanical contrivance has been devised which will work automatically with water, or even with smoke. These, in fact, are to serve for a continual perpetual reminder of their religious duties, and their dependence upon the unseen Powers in which they profess their belief. These religiously rotating machines are devised in the most remarkable varieties. Those which are on a large scale sometimes exhibit an architectural character, and sometimes an architectural structure. The volume under consideration forms an interesting and excellent compendium of the wonderfully varied forms the author has met with, together with the mode of use by the people generally, but especially by the members of their monastic orders, which are very numerous, and pervade all ranks and classes. We are told, however, that the term "prayer-wheel," which has been generally given to it, is not properly descriptive of its purpose and use. Strictly speaking, no prayers are made, only a mechanical mode of adoration is signified upon the *opus operatum* principle, the turning of the wheel being intended as an act of penitential or of meritorious service, as well as of adoration. The historic character and origin of the system are elaborately investigated, as well as its physiological aspect. Its grand principle would seem to be an intention to progress on the same lines as the universe itself. The universe in which we dwell, so far as we know anything of it, is a system of rotation. The rotatory acts of common daily life are but the reflex of this vast pervading principle. The greater the regularity of our daily life—in our meals, in our work, in our recreation—the greater our prospects of continued prosperity, health, and longevity. The regular recurrence and observance of religious acts and duties must at the same time prove a necessity of, as well as an incitement to, a regular, consistent, systematic maintenance of religious life.

In the Buddhist theory the turning of a horizontal wheel in the right direction is of the first importance, the "right" direction being that of the course of the sun—going round the wheel *with the right hand to the centre.* The reverse way is considered indicative of ill-luck, misfortune, or death, and various illustrations are given as showing the ills attendant on the "reverse way," whether accidentally or purposely so turned. The wheel being one of the most common and obvious emblems of the sun, it is suggested that the wheel indicated the absorption of the ancient sun-worship into Buddhism. And our author quotes Cunningham as saying, in his work on Bhilsa Topes, "The symbol of Buddha was, I believe, the wheel, which in its revolution was emblematic of the passage of the soul through the circle of the various forms of existence. Hence the wheel, or the whole circle, was typical of any one who, after obtaining the Nírvâna, or emancipation from this mortal coil, had *completed* the circle of his existence, and was no longer subject to transmigration." And the symbolism of the wheel is of universal application, indicating the sovereignty of thrones, the perfection of truth, the order of law; and a large mass of metaphysical and allegorical matter is dealt with, and nearly all countries and peoples come into the category.

By no means the least interesting part of the book is to be found in the "Additional Notes," showing the extensive existence of a solar mythology which also pervades the metaphysical system of Buddha, the wheel being "the emblem of rule and government with all Hindus." "The epithet apratihata-Chakra, 'he whose wheel [*i.e.* rule] is unopposed,' is commonly given to kings in the inscriptions," and there is a large Oriental significance in the driving of cars and chariots. The origin and symbolism of the circular movements in Brahmanism and Buddhism are shown to be distinctly solar. For the origin of the wheel our author might find some interest in the "Tarat of the Bohemians," the most ancient book in the world, treating of the "Occult Science," wherein the Hebrew letter Yod, shaped like a comma or a dot, represents the *principle* or *origin* of all things, the other letters of the Hebrew alphabet all being produced by different combinations of this letter. The ancients used a dot in the centre of a circle to denote the "Unity Principle," according to the doctrine of the Kabbalists, the circle representing eternity—a line without beginning or end. "The turning of a wheel and a barrel at midsummer was at one time a solemn State ceremony in the French capital, at which the King alone could apply a light to the fire" [Guidoz]. Then various wheels are treated separately—as the wheel of fortune, the wheel as an amulet, the wheel of God, the wheel of the law, and the wheel and thunder, which become rather extraneous to the real subject of the book. All wheel-like ceremonies and customs are said at one time to have presented a religious aspect. As early as the time of the Vedas the path of the sun had become the type of the "right movement," and so it came to express all that is right, and good, and true. Cords, even, were twisted "sunwise."

Amongst the Gauls, Teutons, and Celts, especially in Scotland and the Western Isles, the author relates a great number of curious customs in circumambulating around altars, hills, cairns, and other localities; and also of the lighting of midnight fires in honour of the sun, which in Ireland and Cornwall have continued down to the present century, as formerly all through the British Isles. All tend to show that the sun-wise course, called the "Deisul," was the all but universal custom—*i.e.* going from east to west by the south, and returning by the north, these all indicating, proving, or seeking good luck and prosperity. He quotes also from Grimm's *Teutonic Mythology* to show the solar origin of the wheel, and its universality is again illustrated. The wonderful amount of harmony in these accounts and the usages of "need fires" themselves point back to a very high antiquity. The wheel seems to be the emblem of the sun, whence light and fire proceed. The whole subject is suited to the ethnologist rather than to the architect. It is an interesting and novel subject to the general reader, in spite of its being written in so discursive a manner as to become in some places somewhat tedious through repetition. The same facts are brought forward in a great number of different connections, dwelling again and again on the direct or the reverse turning of the wheel, or going of circumambulations. The "direct" course relates of course only to the northern hemisphere in which the sun goes round by the south, and not to the countries in which he passes by the north. We have a vast collection of historical descriptions and theories, from which the writer leaves us to draw our own conclusion. The subject has been treated in a comprehensive but by no means an exhaustive manner. It is specially suggested that the reader should draw his own conclusions from the facts given, and should make further investigation into the details of the whole subject as opportunity offers. A list of some 200 books which have been consulted, and a copious index of some 600 references, will be sufficient indication of the mass of matter comprised in the volume.

William White, F.S.A.

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IRON AND STEEL CONSTRUCTION.

Constructional Iron and Steel Work as applied to Public, Private, and Domestic Buildings: a Practical Treatise for Architects, Students, and Builders. By Francis Campin, C.E., author of "Materials and Construction." With illustrations. 8o. Lond. 1896. Price 3s. 6d. [Messrs. Crosby Lockwood & Son, Stationers' Hall Court, Ludgate Hill.]

Some books seem to connect themselves with certain periods of our life, and to the middle-aged architect "Weale's Series" brings back the thoughts of his youth, when the first books put into the hands of the articled pupil were Dobson's *Art of Building*, and others of that well-known series, the latest addition to which is Campin's *Constructional Iron and Steel Work*. In reading this work one is brought back in thought to those dear old days when the architect's scientific education was of the most elementary character, and when it was not compulsory to pass an examination prior to becoming a member of the Institute. The book is written in the same light and general manner as the older works of the series: it is full of general information, yet without that precision which one finds in a modern scientific work, and hardly with that clear demonstration one looks for from such an authority as Mr. Campin.

In the introductory chapter, the shortest in the volume, the author points out, with great truth, that one effect of the present use of iron in lieu of brick and timber is the greater accuracy required in the preparation of drawings, as there is not the same facility for increasing or reducing the length of iron joists and posts as there is with timber or brickwork. This remark he emphasises again towards the end of the book (p. 240), where he says that "if any difficulty arises, neither the builder nor the contractors for the steel and iron work will be prepared to stand the loss ensuing, and the architect will be slow to certify for extra payment, although the variation may have been due to the inadequacy of his contract plans."

He points out also what must be evident to most architects, although one seldom sees it in print, viz., that it is unscientific to rest a bressummer partly on an iron storey-post and partly on brickwork—in opposition to the requirement in section 56 of the Metropolitan Building Act—as there is no shrinkage in an iron stanchion, while almost invariably there is more or less settlement with brickwork.

The first chapter after the introduction treats of wrought-iron, cast-iron, and steel as simple materials. Somehow the description seems old-fashioned in style and wanting in clearness, though the general matter is good, and well deserving the attention of the student.

The second chapter treats of cast-iron stanchions and columns, and would be very useful to the student if it were only more precise and "up to date." The author explains clearly and fully how girders should be carried on stanchions where these are continued from floor to floor, and he rightly denounces the common error, where a girder is required between two stanchions directly over each other, of resting the girder on the head of the lower stanchion, and bolting the upper stanchion on to the girder. He shows the faults in this method of construction, and gives several illustrations of the boxes or stilting which should be used in such conditions. In plate 1 several plans are given for cast-iron stanchions, but the two he recommends, M and N, are far from good examples. The example M has a line of wall frontage drawn half a brick's thickness in front of the stanchion, instead of in the same line as the stanchion: there is no advantage in building a stanchion with four inches of brickwork in front of it, and generally it is a positive advantage to have the face of the stanchion flush with the face of the brickwork. The use of the hollow stanchion or square column N recommended by the author is inadvisable, as the one advantage of the open stanchion over the circular column is that every rib of the iron is exposed in the stanchion, thus ensuring good casting; and this exposure of all the parts more than compensates for the extra metal required to make the square-planned open stanchion as strong as the hollow column. On the other hand, in a square enclosed stanchion there is not this corresponding advantage.

The description is rather careless. At page 22 the iron base of a stanchion 11 inches by 9 inches on plan is described as swelling out to over 11 feet super. This evidently refers to the stone base under the stanchion, but the drawing on plate 1 emphasises the description as applying to the iron base. It is this want of precision which troubles students, who are unable to see what is intended behind the vague description given.

The description of wrought-iron and steel stanchions is reserved for a later chapter, under the heading "Manufacture," instead of being placed close to the descriptions of cast-iron stanchions. This is a disadvantage, as it is useful for the student to see when cast-iron is preferable to wrought, and *vice versâ*. Mr. Campin seems to favour cast-iron in almost all cases as preferable for stanchions to wrought-iron, and I agree with him in the advice that it is a mistake to use wrought-iron or steel for the stanchions of ordinary commercial buildings, as it is difficult to make satisfactory connections between the shafts and caps or the shafts and bases, or to adapt the shafts to carry intermediate girders.

Reference is made in this chapter to Gordon's well-known formula, which was not written by Gordon himself, but has somehow become attached to his name. The formula, by the way, is purely empirical and not trustworthy.

Chapter iii. is devoted to girders with solid webs. The information given is good, but the same want of precise accuracy is evident here as elsewhere in the book. A wrought-iron joist is drawn in plate 8 and described on page 44 as being 12 inches deep and having a $\frac{3}{4}$-inch web. One never does see such a web in ordinary use; and it is a pity that greater care was not exercised in revising the proofs, as students are so apt to remember just those points which are not usual or correct. This chapter is perhaps the most important in the book, and well worthy of careful study; but there is not that completeness in it which one finds in other works on the same subject.* It would have been well if some connection had been shown between the mathematical propositions of the author and the ordinary formulæ used by architects and engineers.

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* As an instance of the want of careful editing, on page 66, A is described as "equal to the sectional area of both flanges together in square inches," while three lines further on, in the same sentence, A is given as "equal to the total sectional area of web and flange."—L. S.

The fourth chapter treats of lattice or open webbed girders, and so hardly comes into the ordinary practice of the architect.

In the fifth chapter the author describes the way girders are weakened by improperly cutting off the bottom flange, as is so frequently done in every-day building when a cross girder is fitted into a longitudinal one, and he gives useful instructions as to the way bent girders should be built as staircase carriages and in similar positions. In this chapter, as in the others, there are several small errors which are evident to the practising architect, but which are likely to puzzle the youthful student. For instance, the stone base plate for taking the foot of an iron stanchion (p. 162) is described to be safe with a load of seven tons to the foot—which is absurd, as good stone will take with safety at least three or four times that weight. This chapter opens with a good description of how iron is cast, and the necessity of figuring full-size details as well as drawing the same, because cast-iron shrinks about 1 per cent. in cooling.

The sixth and seventh chapters, on loads and stresses, and the general arrangement of buildings, are certainly the most interesting to the ordinary architect. In the sixth chapter the author shows how to calculate the weight which each pier, or stanchion, or column has to take, and how to calculate the weight on floors and girders. Many a young man in the early days of his practice is at a loss how to go to work in describing what scantling of beam he shall use, and what section and bearing to give his upright supports. This information he has not hitherto known where to find, and it is just this which Mr. Campin has given in a chatty, interesting, and not too technical manner.

The eighth chapter treats of iron doors, and is fairly good as far as it goes; but it would have been far more useful if a little information had been added as to the advice tendered and requirements made by fire insurance companies in connection with this subject.

The last chapter gives a short detailed specification for cast- and wrought-iron, and will be much appreciated by the young architect, as also will the examples given showing how to find the weight of girders and stanchions.

There are two defects which require correcting in future editions, as it is pretty certain the work will have a ready sale. In one part of the book the factor of safety is given dogmatically as one fourth of the breaking weight, in another part as one third, and in another part as one sixth. Some explanation should be given why the factor of safety is varied for different materials, and why it is varied at times even with the same material. There is a valid reason, and it should be fully explained. The other defect is the want of a full index, that supplied being of the barest description' and not doing justice to the contents of the volume, which is a creditable and serviceable addition to the list of works for the special use of architectural students. Lewis Solomon.

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SANITARY SCIENCE.

Sanitary House Drainage: its Principles and Practice. A Handbook for the Use of Architects, Engineers, and Builders. By T. E. Coleman, Surveyor, Royal Engineer Civil Staff. With numerous illustrations. Small 8o. *Lond. and New York.* 1896. *Price* 6s. [*Messrs. E. & F. N. Spon*, 125, *Strand; Messrs. Spon & Chamberlain*, 12, *Cortlandt Street, New York.*]

A really practical treatise on drainage as applied to houses, apart from the larger questions of sewage disposal and the like (which are the concern of the engineer rather than of the architect), and which could usefully be put into the hands of a student, is greatly needed. The works bearing on the subject are either bulky volumes dealing with the whole question of sanitary engineering, or books which, however excellent in themselves, are written in the interest of particular members of the plumbing trade. The former are too wide in their scope for the student's use; and the latter, for obvious reasons, are not to be recommended as handbooks.

The present volume is certainly the most successful attempt that I am aware of to supply this much-needed want. The author, a surveyor on the Royal Engineer Civil Staff, has a thoroughly practical knowledge of his subject, and writes plainly, and with commendable brevity. He avoids, too, that pitfall for writers on this class of subject—the advertisement of makers of sanitary wares.

On the question of the separation or grouping into distinct sections of the rain-water and the sewage there will certainly be some difference of opinion. Mr. Coleman is very emphatic on the necessity of keeping the rain—or, as he prefers to call it, the storm—water out of the foul water drains, except when it becomes necessary to discharge it into the latter for want of other outlet. It is certainly open to question whether the flushing power of the rain-water ought to be diverted from the drains, which need it most. The argument for separation is based partly on the fact that the branch drains which receive the rain-water from gullies are not usually ventilated, and partly because of the liability of the traps to become unsealed by evaporation in dry weather. The former is a condition easily remedied; the latter is, I think, very much exaggerated.

The chapter on velocity and flow of sewage and the size of drains is a particularly useful one, and should be carefully studied by every learner. One must enter a protest, however, against the concluding paragraph: "In some districts the by-laws of the local sanitary authority insist upon all the soil drains being not less than six inches diameter. Of course, under such circumstances, the evils entailed by this regulation cannot be avoided." It cannot be too widely known that neither local sanitary authorities outside the Metropolis acting under the Public Health Act 1875, nor similar local authorities in London, have any power to restrict the size of drains in the way referred to. So long as a drain is of sufficient size to do its work efficiently the legal requirements are satisfied.

On the subject of the arrangement of waste-pipes from baths, sinks, and lavatories, it is disappointing to find the author recommending the objectionable plan of discharging into an open hopper head. The condition of a receptacle of this kind, into which soapy or greasy water is being constantly discharged, must necessarily be very foul, and as the hopper head is usually within but a very short distance from a window or windows the system is obviously a bad one. The defects in the book are, however, slight and easily remedied. It is, as I have said, a really valuable and thoroughly practical work, and should be in the hands of every student.

Keith D. Young.

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HORN-BOOKS.

History of the Horn-book. By Andrew W. Tuer, F.S.A., Author of "Bartolozzi and his Works," &c. Illustrated. In two vols. Small 4o. Lond. & New York, 1896. *Price £2. 2s.* [*The Leadenhall Press, Ltd.*, 50, *Leadenhall Street, E.C.; Charles Scribner's Sons*, 153–57, *Fifth Avenue, New York.*]

The fact that few people would quite realise what is meant by a Horn-book perhaps affords some good justification for two volumes on the subject. Certain it is that Mr. Tuer has done pretty nearly all for it that any one could in the two very handsome volumes under notice, and he has actually enclosed within their covers seven real specimens of old Horn-books! The *History of the Horn-book* is a much higher testimony to the skill of the author than to the charm of the subject. After a somewhat careful inspection of these volumes, one is inclined to think Mr. Tuer's painstaking labour and careful observation have been half thrown away. To be sure, the Horn-book appears a quaint and somewhat interesting subject at this latter end of the nineteenth century; but, being an essentially British and American production, it was in a general way almost devoid of any artistic quality whatsoever. There are some examples in Mr. Tuer's book which might almost be called artistic; but there was practically no artistic development of the subject; and though it lasted so long, the use of it died out before it had ever obtained enough artistic quality to become genuinely interesting.

A pretty good definition of a Horn-book appears to be that it is a leaf or page usually containing the alphabet, the nine digits, and the Lord's Prayer, covered with transparent horn, and fixed in a frame with a handle, formerly used in teaching children to read. The earliest record Mr. Tuer can find of a real Horn-book is about 1450. Notwithstanding this very respectable antiquity, it has been found needful to increase the interest of the *History of the Horn-book* by the contributions of over thirty artists, and of their illustrations it cannot be said that the average excellence is very high; it is much below the quality of the nice decorative line-drawing by Mr. Francis D. Bedford at page 163. By the time we have traversed the five hundred pages these books contain, and come to Horn-books made in gingerbread and young ladies' samplers, we feel we have had enough! T. Raffles Davison.

NOTES, QUERIES, AND REPLIES.

Poliphili Hypnerotomachia.

From Philip A. Robson [*A.*]—

Seeing, in Colonel Lenox Prendergast's interesting review of Mr. W. J. Anderson's able *Architecture of the Renaissance in Italy*, a notice of the *Poliphili Hypnerotomachia*, 1499, I venture to send a few additional remarks on the latter from a bibliographical point of view.

The whole expense of the first edition of Aldus Manutius, 1499, was borne by a Milanese, one Leonardo Crasso, who "was loath that so admirable a book should longer lie in darkness." Of Crasso but little is known, beyond that he was a Doctor of Common Law at Verona, and a Master of Arts. The correct date of the book is given in the *errata*, which is generally wanting, as, possibly, some owners preferred that of the colophon (1466). Many of the engravings, which are very free, are usually found mutilated, especially the Priapus. This book, however, which was the greatest production of the press of Aldus, marking a culminating point in its career, did not sell well; and Crasso had to apply for a ten years' extension of privilege. The designs, of which there are 151 in the first, and seventeen in the second book, have been very variously attributed to Giovanni Bellino; Sandro Botticelli; some of them, according to Mr. Lake Price, to Vittore Carpaccio; to Jacopo di Barbari; to Raphael; to Andrea Mantegna; to the two Montagnas; to Colonna, the author; to the anonymous Master of the Dolphins (Eugène Piot and Popelin); to the Bolognese engraver Peregrini; and now to Bramante. W. Bell Scott inclined to S. Cæsenus Peregrinus (*Athenæum*, 1880). The variety of these names is alone sufficient testimony to the beauty of the wood engravings, and the book is singularly attractive to the acquirer of rare or artistic volumes, and more particularly to architects. In my copy there is inscribed, possibly by Desnoyers whose autograph is on the title :—" Je veux parler du *Songe de Poliphile*, fiction bizarre et plein d'extravagances, écrite d'un stile presque inintelligible, mais étincelante de génie, remplie de la plus profonde connaissance de l'art de bâtir des anciens, et de vûes originales et neuves ; livre, enfin, que les plus grands architectes ont toujours étudié avec fruit."

The work is certainly one of the most extraordinary ever written, and has consequently been held in high esteem, all manner of erudite learning, quaint epigram, and artistic precepts abounding in this fantastic dream or mystical love romance. The Hebrew, Arabic, and Greek inscriptions are, of course, merely introduced as a parade of the author's learning. Brunet calls the language Macaronic, which it certainly is not. But the Italian is most pedantic, and has peculiar Latinisms in the spelling.

Little is known of Francesco Colonna, the author, but he seems to have been a Dominican friar, born about 1433 in Venice, who taught rhetoric at Treviso and Padua, and in his old age lived in the convent of SS. Giovanni e Paolo at Venice. So, according to the colophon, he was about thirty-four when he wrote the work. Polia, Francesco's Laura, has been identified with Lucretia Lelio, daughter of a jurist at Treviso, who entered a convent after having been attacked by the plague of 1464-66. As Poliphilo's dream is dated May-day 1467 at Treviso, the places, dates, and people agree fairly well. A MS. note, in the copy belonging to the library of the Dominicans delle Zatere, provides the clue for the identification of the author. By placing in their natural sequence the first letters of each chapter the following is formed :—*Poliam Frater Franciscus Columna peramavit. Ad huc vivit in S. Iohanne et Paulo.* And from a Venetian MS. in the convent of St. John and St. Paul we find Colonna died, full of years, in 1527.

Frequently one comes across notices or quotations from Colonna, not always acknowledged, and the seventeenth and eighteenth century writers on architecture give him considerable praise. He seems to have known his Vitruvius and the late Greek and Roman essayists intimately. The illustrations have certainly left their impress on our art. Stodart, for his delightsome cuts to one of Rogers' small works, evidently studied the *Poliphilus*. And at the present time Morris, Burne Jones, Ricketts, Beardsley, and others have directly or indirectly benefited by its influence.

For those who may desire to possess the volume a few notes on the various editions of which I know may be of service.

First edition, folio, Aldus, 1499. The Beckford copy sold for 130*l.*; Turner, 137*l.*; Hamilton and Crawford, 86*l.* each ; Cheney (1895), 119*l.*

Second edition, folio, Aldus, 1545. I am assured by a prominent London bookseller that this edition is, if anything, rarer than the first, he having had several of the first, but only one of the second. Also, owing to the small number printed of the two editions, the woodcuts are not appreciably inferior in either. The peculiarity of this edition is that Oii and Ovi are in duplicate, at any rate in my copy. I presume this edition is more accurate than the first—as the title says, " Ristampato di Novo, et Ricorretto "—but have not had time to make a careful comparison.

Third edition, folio, 1546. Printed by Loys Cyaneus for Jacques Kerver. This is the first French edition, translated probably by Jean Martin. M. Popelin prefers the French to the Italian designs, than which they are more elegant. Jean Cousin, Geoffrey Tory, and Jean Gougon have been mentioned as the artists. In France there have been six editions of the work between 1546 and 1811.

The English edition, which is Elizabethan, is little less than a travesty of the original with very inferior cuts. This was republished by David Nutt in his Tudor Library, 1890, and edited by Andrew Lang, to whose introduction I am much indebted. The Elizabethan cuts have here been replaced by proper blocks, but the volume does not contain anything like the whole of those in the original. However, the writing has occasionally great charm, and we meet unusual words as " mustulent," " gracilament," " wrympled," &c.

I see the Institute purchased a copy of the cuts issued by the Science and Art Department in 1888, so that the beautiful Renaissance designs, in their pagan glory, are handily available without going to the British Museum.

M. Popelin (not Papelin) has produced the best work on the subject after many years' research. For particulars of this edition (in two tomes) and one or two others, see Colonel Prendergast's review in the last JOURNAL. Mr. A. W. Pollard, in a recent *Portfolio* monograph, " Early Italian Illustrated Books," has reproduced several of the engravings, with some interesting remarks on the first edition. This, at least, is within the reach of all.

MINUTES. VIII.

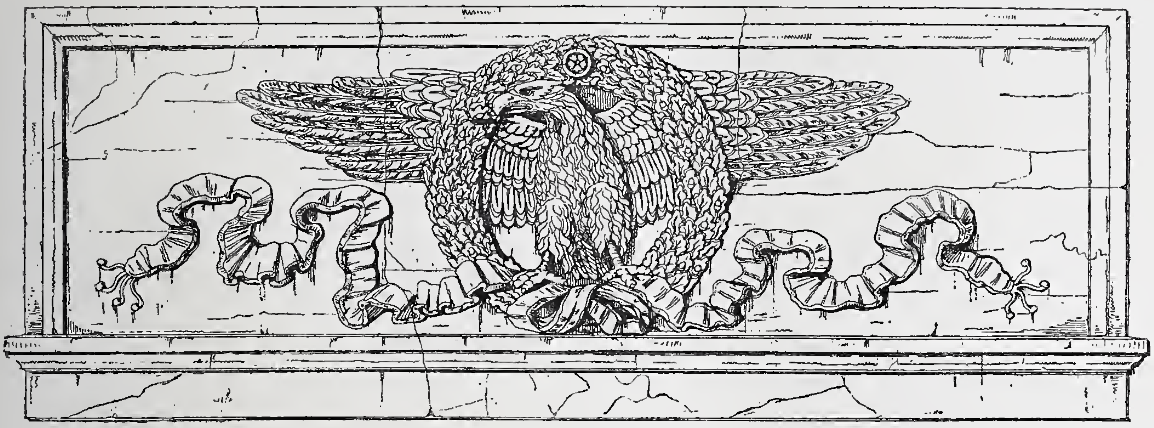
At the Eighth General Meeting of the Session held Monday, 15th February 1897, at 8 p.m., the President, Professor Aitchison, A.R.A., in the Chair, the Minutes of the Meeting held 1st February 1897 [p. 184] were taken as read and signed as correct.

The decease was announced of William Tipping, *Hon. Associate.*

The following Hon. Associate, attending for the first time since his election, was formally admitted and signed the register—namely, Henry Ernest Milner.

A Paper by Mr. H. E. Milner [*H.A.*], F.L.S., entitled THE GARDEN IN RELATION TO THE HOUSE, having been read by the author and discussed, a Vote of Thanks was passed to him by acclamation.

The proceedings then terminated, and the Meeting separated at 10 p.m.



THE EDUCATIONAL TRAINING OF ARCHITECTS. By Leopold Eidlitz.

Read at the General Meeting of the Royal Institute of British Architects, 1st March 1897.

DURING the last half of the present century the questions "How are architects to be educated?" and "Are we ever to have a new style?" have been prolific sources of discussion. The answers to the first of these questions vary between the two extremes —"Architects shall not be educated at all" and "They shall be taught to know everything"; and to the second, that "We shall probably never have a new style, but such a thing may happen in the course of time"—a long time. These discussions are carried on with mutual forbearance and good feeling, but without any other result than an expression of opinion by the majority of the disputants, that students of architecture shall learn something of the technique of building, if this can be done without the suppression of inherent genius. Genius in this case means a lively poetic imagination, capable of remembering, selecting, and combining existing forms into a whole, which shall be picturesque. It has been observed by practical architects that an extended mathematical and scientific training breeds able constructors (engineers), but is detrimental to the artistic perceptions of the students. Existing forms may be repeated or combined by human imagination, but new forms can result only from new functions logically developed. A musician may perform, with precision and feeling, existing compositions, but in order to compose new music it requires something more than a repetition or combination of existing themes. The basis of musical composition is the knowledge of the nature of sound, and of possible combinations of it which shall be harmonious and expressive. This knowledge is purely mathematical.

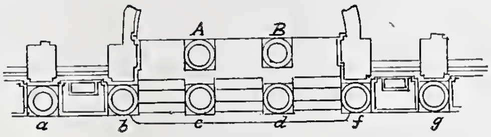
Up to the thirteenth century, architects were builders who arrived at progressive methods of construction, mainly by practical experiment, the laboured results of which were stored up as rules-of-thumb by guilds and individuals, and modelling and decoration were mainly matters of feeling, but of the feeling of men who thoroughly knew their methods of construction. The guilds and their rules are past and gone, but during the last century the science of mechanics has been developed. This science enables us to compute with precision the strains caused in all combinations of matter which have served, or may hereafter serve, to form constructional elements. To illustrate briefly: We know, a certain distribution of weights being given, which is to be sustained between two points of support, what is the line of pressure caused by these weights, hence what the form of the arch to sustain them with the least amount of material. Or, the form of an arch being given, what is the ideal distribution of loads which corresponds accurately to its resistance? Or, again, the form of an arch being given, which we know *not* to correspond with the distribution of its loads, what will be the magnitude of the strains produced in any part of it, and how are these strains to be resisted. We know exactly what is the lateral pressure of a given arch, and what is the stability of an abutment needed to resist it. We can compute the transverse strength of a beam or a lintel, the bending moment of a pillar, or the deflection of either, under loads so small that it cannot be measured. Now, we are all ready to admit that this knowledge is useful, and perhaps necessary to the student of architecture, to enable him to construct buildings that shall be stable and enduring; but many of us doubt that it has anything to do with architecture as a fine art, which means with the composition of architectural monuments which shall be beautiful to look at, and expressive of their purpose and meaning.

I presume that all architects agree that form, modelling, and decoration constitute the elements of beauty and expression, and that of these *form* is the most important. If we imagine every piece of sculpture, carved decoration, and moulding removed, say, from the Cathedral at Amiens, so that nothing remains but the bulk of piers, arches, vaults, and buttresses, the ruin will still express a Christian monument of great beauty. Now, the ecclesiastical expression is owing to what in music would be called the *motif*, which is Christian in character, lofty in its conception for a house of God, and in the *grouping* of its parts, which designate worship in the chevet, the presence of officiating priests in the transept, the people in the nave, the aisles with their processions, chapels, and confessionals; while harmony is certainly due to a just and accurate treatment of structural parts and their mechanical value, which is determined by local strains. In music, neglect of a strict mathematical relation of sounds results in discord. So, in architecture, harmony of form can be attained only by a strict observance of the mathematical relation of strains.

Harmony of strain means that stress should be always resisted by a proportionate amount of material, no more, no less. This does not mean that there should be no more material used than is absolutely necessary to perform a given amount of mechanical work, such, for instance, as we consider proper in economic structures, factories, warehouses, tenements, &c.; but whatever the amount of material to be used in a given architectural monument, which, in the opinion of the architect, is commensurate to its character of stability, dignity, and elegance, shall be proportionate to actual strains throughout the whole design. To be explicit, each building material sustains a certain amount of strain at the breaking point. The actual strain permitted in any structure in practice is but a fraction of the ultimate strain of the material at the breaking point. This fraction is known as the factor of safety, and should, for the same material, vary in different buildings in accordance with their dignity. The architect may use one factor of safety for a school-house, another for a library, and yet another for a church. The factor of safety so chosen becomes the key-note of his design, and a constant reference to it insures harmony. Factors of safety vary with the different materials, and more or less depend on limits of elasticity, methods of construction, probable effects of the weather, corrosion, &c. Strain is the sum of weight, its direction, and resulting bending moments.

It appears from the above that the greater the ultimate resistance of the material, the greater is the admissible maximum strain, hence the more elegant the structural forms. It occurs that in the use of modern rolled iron, form becomes attenuated far beyond the limits of the forms the architect is familiar with. Mr. Ruskin exclaims, "There is no law, no principle based upon past practice, which may not be overthrown in a moment by the arising of a *new condition*, or the invention of a *new material*." We must answer this despondency by stating that there is still the law of mechanics which cannot be overthrown by new conditions or new materials.

The impression prevails that the masses of architectural monuments are far greater than those which would be required by scientific construction. While this is true in some instances, in many more the reverse is also true. An example of an existing building recently erected may serve to illustrate conditions of gross discord in the formation of architectural masses. *A*, *B*, and *a*, *b*, *c*, *d*, *f*, *g*, are granite columns three feet in diameter and of equal length; *a*, *b*, *c*, *d*, *f*, *g*, support a portico some thirty-five feet high, while *A*, *B*, support the front wall of the main building, which is over 300 feet high. The shafts of the latter columns, moreover, consist of two pieces vertically joined. The resistance to a vertical load of column of the length and diameter in question is reduced in a ratio of from five to three by a vertical division as described. The actual weight upon each of the columns under the main building is 480,000 lb., and that of each of the columns under the portico is 40,000 lb. It seems clear, therefore, that the author of this building was entirely oblivious of the fact that harmonious relations of the masses must be determined by relative strains. What did occur was that the main building was constructed of an iron frame, housed in a stone envelope; and as the form and colour of the iron posts which support the front did not please the architect, he enclosed them in two pieces of granite, convex on the outside and concave on the inside, and converted the iron posts into stone columns—a form of support known to him in Greek and Renaissance architecture.



It may be asked here, and doubtless many a respectable member of our profession would ask, what the author could have done with an ugly iron or steel pillar riveted up of rolled material. Without discussing that question at this time—although it may be asserted with confidence that a post of that description is not at all outside the pale of æsthetic possibilities—it may be suggested that a cast bronze column was perfectly practicable, and so was a granite column of sufficient diameter to carry the load. What the architect had in mind, however, was not the question of mechanical work to be done, nor the question of relative strains and an harmonious architectural development of forms, but the beauties of the Greek portico, which must be preserved in spite of new conditions and the invention of new material. Of course, no new style of architecture can be expected when new conditions, such as a twenty-five-storey office building—or the invention of a new material, such as rolled steel—are referred to the Greek portico, instead of to the law of gravitation.

A great stumbling-block to the student of architecture is the constant and exclusive reading of its history, which is tacitly presented by schools, and avowedly accepted by students, as a system of building which serves all the purposes of a philosophy—or a science and art—competent to teach building scientifically and artistically under conditions which never occurred in the history of the past. The mathematical training in modern schools and universities is usually sufficient to enable the student to devise methods of construction and, when devised, to compute with accuracy resulting strains. Students who then enter an architectural course are turned over to a special teacher of architecture, who tells them to design buildings of any kind—from a storehouse to a cathedral—not in accordance with their acquired knowledge of mechanics, but in accordance with methods pursued by the Greeks, the Romans, &c., who were not at all familiar with the science of building as now understood, but who constructed merely in accordance with their practical experience. For further information the student is referred to *Art History*. Now, the Greeks, the Romans, and the master-builders of the Middle Ages, though not scientific in the modern sense, understood form, because they practically knew the mechanical function of structural elements, and had a realising practical sense of the relation of masses, hence also of the form, modelling, and decoration of these masses.

The modern student of architecture has no experience in building, and, when he enters the academic course, discards from his mind his previous scientific attainment, which never existed in the shape of forms, but merely in an aggregation of mathematical reasonings. He is not taught how to refer to that reasoning in developing forms, but, instead, is asked to study forms in the abstract as presented in history. The system of the École des Beaux-Arts, which is imitated in many schools outside of France, is utterly subversive of possible logical architecture. Students are required to prepare sketches, often of important architectural monuments, in from six to sixteen hours. By rules of the school, these sketches may be measurably foggy, so long as the finally completed drawings can be construed to be somehow indicated in the original sketch; this means that the process is a matter of composition of form, and not a rational development. Criticism of these designs by teachers admits transgression against good construction as comparatively pardonable, but insists on observance of traditional treatment of form as imperative.

The study of architectural history (more especially if perused critically) is doubtless beneficial to the architect, but should be postponed for a post-graduate course, or should be left for private reading after the academic course is completed. A future text-book of architecture for universities, polytechnic schools, and academies of the art of architecture will doubtless bear the title—*The Theory, Practice, and Art of Building*. This text-book would assume the student to have attained a mathematical training sufficient to read with comfort, and refer to with ease, say, Rankine's *Applied Mechanics*, or any other work equivalent to it, at least as far as statics are concerned. It would contain essays on the subject of modelling (moulding) structural parts, with reference to mechanical work done and the strength and elegance with which it is to be done, when considered in connection with the dignity of various buildings, and how modelling is affected by the nature of the material used. Also an essay on carved ornament and colour-decoration, and their relation to mechanical function, the character of the structure, and the nature of the material used. All this would be illustrated with diagrams and decorative designs, selected from existing sources, composed anew from natural objects, conventionalised in accordance with the nature of the material. Then there would follow the architectural scales, which, like the scales in music, would serve to train the student preparatory to the work of actual composition. What is here meant by architectural scales may be best illustrated by one or more examples, for instance: Given a pillar of a certain length, and the load it supports in pounds, what will be its sectional area, and what its form, modelling, carved ornament, and colour decoration (if any) in a warehouse, a public school, a library, a court-house, and a parish church, when the pillar is made of wood, cast iron, wrought iron, bronze, brick, sand-stone, marble, or granite? The text-book would answer these questions, and illustrate the answers by drawings and diagrams. It would state how variations of treatment would accrue by reason of difference in the length of the pillar; also how pillars of similar nature have been treated in notable monuments of the past, and discuss the merit of such treatment, and point out its material defects. Wall piers considered as pillars would be treated in the same way. Then would follow the consideration of braces, capitals, and corbels. Further, that of lintels, arches, groins, and cupolas, and the resulting lateral pressures and abutments; and also of roofs, stairs, and incidental structural elements.

Assuming the architectural scales to comprise the first part of the text-book, the second part will treat of the construction of single cells, and the combination of these into piles. The students would attend lectures on the *rationale* of structural elements and composition, but would devote most of their time to drawing structural parts, and finally entire buildings and monuments, not by copying from the text-book, but by an individual treatment of the subjects contained therein under the guidance of a professor and his assistant or assistants. The latter would see to it that adherence to strain is strictly pursued. By this process, students would in their work be corrected and helped daily, and would progressively acquire a habit of referring design to building, and its mechanical import. That monuments thus conceived and designed will be expressive of their meaning, and the individuality of their author, cannot be doubted; nor that they will be harmonious in themselves, and will vary from the forms of the past in the degree as new wants, new material, new methods of construction vary and excel those handed down to us in history.

When a natural organism decays and dies, it still exists in its elements, though not in its original form. These elements under different environments combine again into new organic forms of different functions. Science and art obey a similar law. Principles established by experience continue to live as accepted truths, when the forms of artificial organisms which they originally developed have ceased to be fitting or useful to human needs, more especially when those principles first crudely announced have become accurately determined by quantitative analysis. The cross-bow and modern rifle, the spinning-wheel and the present spinning-machines, and the ancient galley and the armoured steamer, all serve as practical illustrations of the above. Architecture alone, of all human pursuits, retains obsolete forms and neglects underlying principles and organic laws. It must be remembered, however, that this was not the case prior to the fourteenth century. Five hundred years of decrepitude leads thinking minds to question a possible resuscitation; and when now and then such a possibility is seriously contemplated, we talk of centuries and generations, because past progress has consumed such periods of time. But when we consider the great strides of the present century, owing to the knowledge and application of positive scientific methods—the metamorphosis of Japan, for instance, within the last generation, purely by the acknowledgment and practical acceptance of these methods—we must come to the conclusion that a period of one generation is quite sufficient to initiate renewed rapid progress in architectural art, always provided that we are ready and willing to refer it to its true and fundamental principles, and to teach it rationally.

DISCUSSION OF MR. EIDLITZ'S PAPER.

The President, Professor Aitchison, A.R.A., in the Chair.

Mr. JOHN SLATER [*F.*], B.A., who, in the absence of the author, had undertaken to read the Paper to the Meeting, made the following introductory remarks:—Mr. President and Gentlemen, I find some difficulty in explaining my position here as reading this Paper. When asked a few days ago if I would read Mr. Eidlitz's Paper to the Meeting, I said I had not seen the Paper, and knew nothing at all about it; so in consenting to be the foster-father to the Paper, I must not be understood to adopt the bantling as my own. The Paper is characteristically and essentially American. We know that the Americans are strictly utilitarian people: they have rather a contempt for tradition and traditional usage, and have adopted methods of their own with regard to building; and I am bound to say that with a great deal of what is in this Paper I myself could not personally agree. Mr. Eidlitz is an architect practising in New York, and the author of a book on *The Nature and Function of Art*, which is in the Institute Library. I have only been able just to glance at the work: it is rather a large volume, and contains much suggestive matter. There are points also in this Paper which themselves are very suggestive. But when an architect asks people to throw over tradition altogether, and believes that the study of old work is of very little use to the architectural student, and ought to be put off till after his student days, I am afraid a great many people in England will hardly agree with him. The main point made by Mr. Eidlitz is that form in architecture should always be connected with a proper relation of points of support to the strain of weights they have to carry. No doubt a great truth underlies this statement, and I remember that some years ago Mr. Statham read a Paper before the Royal Institution in which he very happily commented upon the lack of this element in construction with reference to one of our bridges, where there was a huge projecting pier, of which I think he gave a diagram, supporting a young lady with a parasol! There is no doubt a great truth in the fact that your points of support ought to be correlated to the weights they have to bear. My own opinion is that the disappointing feature of American architecture is largely due to the fact that the huge, lofty buildings erected in the States are constructed solely of iron; the iron supports are cased with stone to look like stone piers; and we have a building, thirteen or fourteen storeys high, apparently resting upon a stone pier, which it is perfectly evident is not sufficient to carry it. I hold most strongly that the supports of a building ought not only to be actually, but also apparently proportional to the weights they have to carry, or we cannot derive any satisfaction from the aspect of the building. I am afraid, however, that if we were to adopt, as the text-book of our architectural studies or our architectural education, the mere mechanical formula of proportion of weight to strains, we should not clothe the dead bones of building with any architectural life at all.

[The Paper was then read, and the following discussion ensued :]

Mr. H. HEATHCOTE STATHAM [*F.*].—Sir, I shall be happy to propose a vote of thanks to Mr. Eidlitz for his Paper. I have already some knowledge of his writings, and have read them with great interest. I have listened to this short Paper with a mingled feeling of interest and something of melancholy, as to the last attempt made to found a new and perfect theory for evolving a new style of architecture. There are some valuable suggestions in the Paper, but they will, I fear, go the way of all the others, so far as arriving at any practical result. There is some value in his suggestion for an architectural scale, that is, for giving pupils a problem of this kind: Given a pier of a certain length, and given its supports in pounds, what should be its sectional area and its width? You can go as far as that. Then he goes on to say what should be its moulding and its carved ornament; but that, it appears to me, has nothing to do with its practical power of strain at all. It struck me particularly that this Paper repeats again, what I call the old fallacy that we have heard again and again during the last twenty years or so, that we should endeavour to carry out architecture as people carried it out before the fourteenth century, without reference to precedent. It would be well if we could once for all recognise the fact that that is absolutely impossible; it may be right from a philosophical point of view, but it cannot be done. If we could catch a generation of architectural students, take possession of them as soon as they are born, and keep them out of sight of any buildings, then send them to a desert island, and keep them away from a knowledge of any books, or history, and tell them to construct buildings to suit their purpose in the best way they can, I suppose they might then evolve something new! But we are not in the position of people before the ages of printing. The people who built the fourteenth-century cathedrals, the people who evolved Gothic out of round-arch Gothic, worked in a spontaneous way, and without reference to other studies, simply because they knew of nothing else; they did not travel, or hardly at all, and were not acquainted with other places. Now here we have before us, in books, photographs, and by travel, a knowledge of everything in other countries, and of everything that went before us. Even the Romans had no real knowledge of Greek architecture; Vitruvius wrote about Greek architecture, but it is improbable that he ever visited Athens. There was a reason, then, for individual styles being naturally evolved, in a position of things which has gone for ever, and which, I say, never can revive; and I think the sooner people recognise that the better, because then they will give over pursuing this kind of phantom of a return to a spontaneous architectural style, without reference to anything that has preceded it. As soon as people have any knowledge of styles, the human mind is so constituted that they must be affected by it. They cannot help it. Mr. Eidlitz in his Paper has said some hard things about the system of the École des Beaux-Arts, which is said to be subversive of true architecture. The system may be rather conventional, but I should like to recall this fact, that one of our ablest and most thoughtful art critics, the late P. G. Hamerton, who spent many years in France, left it on record, as his decisive conviction, that architecture is more a living art in France at this moment than in any other country in the world. That opinion is the more remarkable as coming from Hamerton because he was not an architect; he had no particular prejudices of education, and as an art critic was a man remarkably independent in feeling; he did not move in ordinary grooves at all; and that is the view which modern French architecture at its best presented to a very thoughtful and enthusiastic lover of art. There is, I think, a great deal of truth in that. For some years past I have made a practice of looking through the architecture at the Salon every year, and though there is a great deal of mere school work—no doubt students' drawings—there is much that is decidedly original and thoughtful in the new buildings growing up there, as well as in and around Paris; so that one cannot consider that the teaching given in the École des Beaux-Arts is entirely a failure, or has led to merely conventional architecture without any ideas in it. Particularly last year I noticed that the Gold Medal for Architecture at the Salon was given, not to a piece of school architecture at all, but to an absolutely practical technical building, a great set of drawings for the Central Depôt of the Post and Telegraph Department, by M. Scellier de Gisors. That shows that in France they are carrying out what is sensible in the principles of this Paper; they are giving a man the Gold Medal for having shown admirable technical treatment of a purely technical building, without anything of what one may call academical art in it at all. So that I think the reproaches cast at the École des Beaux-Arts are sterner than they need be, and that it has not brought about all the unhappy results Mr. Eidlitz is inclined to suppose. I agree with Mr. Eidlitz so far as thinking that it is a great advantage to students to direct their minds to the consideration of the strains their work has to meet, and to design in relation to that; but I do not think it is of any use to try to shut them out from any architectural precedents; because, if shut out from it in the school, they will get it out of doors; and if one tries to keep them from all books and knowledge of architectural history, they will have nothing to go upon as a basis for designing at all. No one generation of men can absolutely originate a style. It always depends—it always has in former times—on what has gone before; and as long as human nature remains the same it will continue to be so. I have, however, great pleasure in proposing a vote of thanks for what, though short, is a very thoughtful Paper, and containing some useful suggestions.

The HONORARY SECRETARY.—I have much pleasure, Sir, in seconding the vote of thanks to Mr. Eidlitz for his interesting Paper. I think the teaching of the École des Beaux-Arts, which is essentially that of classical architecture, and therefore means low buildings some two or three storeys in height, is really subversive of the architectural problem that Mr. Eidlitz wishes to work out—a problem, that is to say, of constructing an architectural building of, say, from fifteen to twenty-two storeys high. That, it seems to me, is the sole architectural problem in this world that he thinks worthy of solution. In a building in America twenty-two storeys high, naturally it comes to a construction of steel or iron, which I think I have heard you say, Sir, is the architecture of the period, and which we ought to study at the present time.

Mr. WILLIAM WOODWARD [*A.*].—Sir, I wish to confine myself to one practical and intelligible phase of this subject, which was very well indeed brought out by Mr. Slater in his introductory remarks. I gather Mr. Slater's views to be these, that it is wrong to encase a pier or column of iron with stone or other material. That brings us to this: Supposing there is a superstructure to be carried, Mr. Slater says that not only should the column or pier carry that superstructure, but it should appear to carry it. In other words, that supposing with a cast-iron stanchion encased in stone you can carry a superstructure with a diameter of 2 feet 6 inches, Mr. Slater's theory, carried into practice, would mean, speaking roughly of course, a pier or column 5 feet in diameter. That, in the case of a commercial building, would be a pier which would not be tolerated by the individual who had to pay for the building; and it would be ignoring the fact that in the smaller diameter we take advantage of material that has come to us since the thirteenth century. It is, to my mind, of no avail to say that you do not find the stanchion of iron-work employed in the thirteenth century. The reason is that the thirteenth-century builders did not know of the existence—in that form at all events—of the vertical supports which we know to-day. I think it is a perfectly defensible proposition that an architect should take advantage of a cast-iron stanchion. I say that it does not interfere with legitimate architecture that he may employ such a stanchion, and may enclose it with terra-cotta or stone, and may therefore reduce the area of support. So long as that column is in proportion, it is, I contend, quite a defensible design. I have a case in which I have done it myself, and in this way. I wanted to have a gauged red-brick column. The diameter of that column as desired would not have been sufficient unless a cast-iron stanchion had been introduced into that column; that cast-iron stanchion has been introduced; it has been entirely covered up; and I have been enabled to get my red-brick column, which otherwise could not have been got. One of the objections raised against the Tower Bridge is that the employment of iron there encased in stone is an indefensible design. I think it thoroughly defensible. The architect has really taken advantage of the material at his disposal; and, so long as the work is in proportion, I maintain that its employment in that form is a thoroughly defensible and excellent form of design.

Mr. C. H. BRODIE [*A.*] suggested that it would be interesting to add a note to Mr. Cates's remarks [p. 220] giving the ages of those who had won the Soane Medallion during the last ten years.*

The PRESIDENT.—Some seven years ago I happened to pick up Mr. Eidlitz's book on *The Nature and Function of Art, more especially of Architecture*, at an old book-shop, and was struck by its title. I read it through—no small task, I may say, for it is a book of some 500 pages—and I found the author was the only person I have ever come across in my life who had a due belief in the importance of art to mankind. I have spoken to a great many artists at various times, but they almost all agree in the modern maxim that art is solely for delight. Now Mr. Eidlitz is of opinion that it is one of the great means of education of the masses; that the sort of vague ideas that they get from it are the only ones that they can possibly get; and, as he says, at present it is thought that we can do without art. But it is just as necessary now, if you want to teach the people, as it was two thousand years ago. That alone is a great charm in the book. I cannot say that I wholly and entirely agree with all his remarks about architecture, and amongst other things I do not agree with his idea that the whole thoughts and practice of architecture can be changed in a generation, or anything like it. Nevertheless, I consider that the Paper we have had to-night is one of the most important Papers ever read in this Institute since I have been a member. One of the great difficulties of architecture is its proportions. Now these proportions no doubt were originally laid down by the early architects as the results of their experience on the strength of materials—I have not the least doubt of that, although I cannot prove it. Well, these proportions have come from being studied, and also from their being so constantly before us, to take a form that is agreeable to our eyes; custom will do that; Mr. Eidlitz in his Paper shows how in this direction one step forward may be taken in architecture. He says you will find that if you take a constant according to the desire that you have to give elegance or solidity to your building, and that if you multiply by that chosen constant every portion according to its stability, its absolute doing the work that it has to do, you will get the proper proportion for each part without any more trouble; and that, in my opinion, is a true and most valuable remark. Mr. Statham's observations about the effect of things past on the minds of the present are certainly perfectly true. I do not think, though I must say I have only read this Paper cursorily, that there is anything in Mr. Eidlitz's Paper to show that he is of a different opinion. I agree with his remarks about the usual study in our own country of what is called historic architecture. As applied now it is not only perfectly useless, but destructive of any kind of progress in the art, for, as Mr. Ruskin remarked, "it is not wanted to be put into a storehouse for use, but into a gallery for study." What, in my opinion, we want to do is to express in the taste of the day the things that are wanted. We want to arrange a building as exactly as possible for the purpose; we want to make it bear what it should bear in each portion; and we want also to take this constant, and, where we want a building to look very strong, to multiply each part by the same constant. We want to give it the ornament necessary to convey to persons of our own age a view of the use the building is to be put to, and to evoke the emotions this use should engender; and I think all these things are more or less embodied in Mr. Eidlitz's Paper. But there is one point on which I cannot agree with him. He believes that not only may the rough form, but the absolutely finished form, be got by means of those strains; and that, I think, is not the case. Architecture, I think, appeals rather to those human emotions that no mere mechanical method will ever produce. It is the desire of mankind to express something that the mere strains will not of necessity give. But he goes further than that: he thinks that each particular weight to be carried, or strain to be resisted, will give its proper form to the part if it could be properly carried out; and he thinks also that there is some natural concurrence of colour with these. Well, I confess it is beyond me if there is; I have never been able to see it. The only thing I would say about Mr. Statham's remarks is that the Roman, and even the earlier Romanesque, architects were not so absolutely without anything to give them an idea. The Romans got hints from the native architectures of all the countries they conquered. The Romanesque architects had the Roman ruins, and the works of the Byzantines. The Romanesque architects learnt what little they could get from the Roman and Byzantine buildings about them; but this was nothing to what they afterwards achieved, when they had made the tour through Europe, Asia Minor, and Syria. And it will be remembered that it was not till 1291 that the Crusaders were eventually driven out of Acre. Therefore these people had not only a fine opportunity of seeing a great many things that had been done, but they were also in contact, as well as in conflict, with those people who were then the most civilised in the world—the Saracens. They must have seen an immense quantity of their rather ephemeral works; and I believe it was the endeavour to rival, rather than to imitate, them which gave the peculiar character which Gothic, and especially late Gothic, took.

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* As no record of the ages of Prize-winners is kept at the Institute, Mr. Brodie's request cannot be complied with; but it would be feasible to give this information against the names of future winners in the Registers published in the Kalendar.

Mr. ARTHUR CATES [*F.*], who had been asked to favour the Institute with a few observations on the subject of Mr. Eidlitz's Paper, sent the following communication, which was read to the Meeting by the Hon. Secretary:—

The educational training of architects, with which the Institute is concerned, is clearly not one in which "they shall be taught to know everything," nor is it one the aim and object of which is to produce the evolution of "a new style," whatever that once much-used phrase may mean. The educational training which is now organised aims at fitting the student for the acquisition of the knowledge necessary for the satisfactory practice of his profession, in developing his natural, artistic, and scientific ability, so that he may apply both to the expression of his ideas in design and in the realisation of his conceptions. In the complex conditions of the practice of the day the architect must aim at acquiring the power to attain success in designing buildings which shall be convenient and appropriate in arrangement; shall be of stable construction; and shall be of suitable and beautiful design, both as regards masses, form, and detail.

The first studies of the aspirant should be devoted to a mastery of Classic and Mediæval work—intelligently studied, with a thorough acquaintance with form and detail—leaving the Renaissance and later developments to a subsequent period when he can bring to bear on their consideration the knowledge acquired in the first years of his studies. In both periods the sedulous cultivation of the art of accurate and effective delineation, and of sketching detail and ornament, from buildings and from memory, thus bringing eye and hand and brain into harmonious and mutual action, is of the highest importance.

Concurrently with this, the study of the history of the several periods of architectural art is of the greatest value, not as a mere matter of dates and names, but as giving life and interest to the subjects studied, connecting them with the actual social life of the people by whom they were evolved, and with the political, social, and religious influences which controlled their design. These historical studies train the mental and artistic powers, and by giving a keener appreciation of the excellence of excellent things, and of the causes of such excellence, refine the taste and strengthen the judgment.

It has been well said by Professor William R. Ware *—

> I cannot help thinking that this discipline is calculated to calm the anxiety of those who fear that too prolonged courses of academic study may enervate the powers, instead of stimulating them, and, as in a hot-bed, bury or burn out all seeds of originality through too rich a culture. I fancy that these fears have in general but little foundation, and that it is not through over-education that talents are lost to the world, and fail to bring increase to their owners, so much as through their lying neglected, or, as sometimes happens, being too carefully tended by their possessor lest their original brightness should be tarnished. Still it is true that in the conduct of life, and especially in the practice of the arts, which is but the finer kind of living, it is the special personal quality, the spark of individuality and originality which lights every man who comes into the world, that has intrinsic value; and though the risk of extinguishing the flame in too strong a draught may be exaggerated, it is not possible to exaggerate the importance of fostering and magnifying it. There is no knowing what fire it may not kindle. If ever you have a new idea, however slight and unimportant it may seem to be, cling to it, cherish it, develop it, and some day you may awaken and find yourself immortal.*

This immortality, if to be one of honour, is not likely to be attained by the study of the suggested "future text-book of architecture for universities, polytechnic schools, and academies of the art of architecture, which will doubtless bear the title, *The Theory, Practice, and Art of Building.*"

It is not easy to comprehend what would be the exact nature of this text-book, which would profess to give the "form, modelling, carved ornament, and colour decoration (if any) for pillars and probably other details in a warehouse, a public school, a library, a courthouse, and a parish church." And out of this text-book are to be evolved monuments that are to be expressive of their meaning and of the individuality of their author.

The "factor of safety," which it appears may vary in different buildings in accordance with their dignity, is apparently the key to this "text-book," from the study of which such excellent results are to be obtained; but surely the first elements of design dictate that the considerations of form, outline, masses, and stability, in both appearance and fact, must be the essentials to be primarily dealt with; and these, as well as the character of the detail and of the ornament, must be governed by the nature of the material to be employed; the skill and talent of the architect are displayed in his artistic and scientific use of such materials, in accordance with their qualities; and in their application to the best advantage for convenience, strength, and beauty:—no "text-book," no "architectural scales," no "combination of single cells into piles," will enable the architect to effect this. His success will depend on his application of the capabilities of the materials he used, and will be the greater as he may have been blessed with the divine inspiration of artistic genius, and have cultivated and developed it by earnest study, of which mechanical and constructive details would not have occupied the most important part.

The Institute has an excellent opportunity to afford encouragement to the study of the means of satisfying new wants, by the use of new materials and new methods of construction, and the more extended application of those materials with the existence of which we are familiar, but of whose capabilities in perhaps unexpected directions we have no appreciation. The Soane Medallion and its accompanying travelling studentship is in the free and uncontrolled disposition of the Institute. At present the only qualification of competitors is that they shall be "British subjects under the age of thirty years," with the result that there is each year a great amount of misdirected and wasted energy on the part of untrained competitors who have entered on design before they have mastered the essential principles which should govern it. By altering the conditions to secure that these principles should have been mastered, and even by securing that the competitors should have had some reasonable training, by making Associateship

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* *The Study of Architectural History at Columbia College.*

or qualification therefor an express condition, the results would certainly be more satisfactory, the cause of the educational training of architects be greatly advanced, while some new developments of design arising out of the application of new materials might possibly arise.

The questions raised by "The Text-book" suggestion were considered a short time ago from a different standpoint by the Committee on Education of the American Institute of Architects, and Professor W. R. Ware, in the Paper above quoted, says in relation thereto:—

> The Committee on Education expressed the hope that if the study of the historic styles was systematised and coordinated in the schools, "such an effective concentration of intelligent effort might aid in developing a system of architectural form that should be nationally characteristic, and should be more accurately adjusted to the expression of modern American life" than those now in vogue. We do not feel that it very much concerns us to exert ourselves to any such end; we do not see that we have any cause to map out the future, to cast a horoscope, or to attempt to influence events towards issues indicated by any astrology that can be devised. We distrust the science which, in our present state of ignorance, undertakes to foretell or to control the architectural weather. All we can be sure of is that the architecture of the future will be good or bad, noble or ignoble, fair or foul, according to the personal character and professional prowess of the men who have it in hand. All we can undertake to do is, if possible, to inspire the young men who come under our hand with a certain measure of good sense and good taste, teaching them by precept and the example of history that in art, as in life, temperance and refinement of conduct come from firmness of mind and elevation of spirit, and that these are the only sure means to these ends.

All reasonable men must agree with the conclusions so well expressed by Professor Ware, and be content to await the development which must follow carefully conducted educational training, kept free from mere academic influences, and this Institute need not look further ahead than to continue steadfastly in the course already adopted, and thus eventually secure that all its members shall have had that thorough and systematic artistic, scientific, and practical training, based on a sound general education, which will ensure that the title of architect and membership of the Institute shall imply that its possessor may reasonably be expected to be a reliable and trustworthy adviser on all artistic and practical details, and also a well-educated man, standing at least on a level with the average of his clients in knowledge of all ordinary topics of art and general history, and superior to them in his special and technical knowledge. An architect will then, so far as personal characteristics may permit, in some degree combine the imagination of the artist, the intellectual clearness and precision of the mathematician, and the experience and readiness of the practical man with the culture and refinement of the educated gentleman.

ON THE PROBABLE INFLUENCE OF THE TECHNICAL EDUCATION MOVEMENT UPON THE ARCHITECT AND HIS WORK. By Frank Caws [*F.*].*

THIS movement is a sign of our times. Great in its inception, still greater in its development, but greatest of all in its promised fruits. Our profession is also great, very great and noble, in its antiquity and history, distinguished in every age and nation by glorious achievements; but whether its future will eclipse its past will depend on whether it will, or will not, continue to advance, as heretofore, on the crest of the unresting wave of human progress.

The very name of Architecture proclaims its proud precedence in the order and rank of technical art and work. But this has of late years been strangely overlooked by the promoters of systematic technical education, and it may well be asked by every architect zealous for the dignity of his calling: "How has it come about that, while princes of the blood royal, soldiers, sailors, and professional men of all other sorts have been more or less active in this great movement for technical education, architects have taken scarcely any place, much less the 'arch,' or chief, place in their counsels?" Thereby hangs a tale, which, for the credit of our profession, had better remain untold. A tale of declension—generation after generation of the race of British architects, ever dwindling in mental capacity, and continually growing feebler in spirit, while simultaneously increasing in numbers, content with the pursuit of artistic trifles, while permitting with little or no protest those majestic works which have rendered our nineteenth century the most wonderful of all the centuries to pass out of their weak hands into those of the distinctly modern race of civil engineers who have succeeded in demonstrating to the admiring world that—Solomon notwithstanding—the battle is to the strong.

But while we must mournfully acknowledge that the architects of this and the seventeenth and eighteenth centuries have themselves to thank for the loss of much prestige which it should have been their glory to win, yet the blame has not been wholly theirs. The chief of the Old World Wisemen, when sick of himself and surfeited with his own philosophy, wrote these words: "God made men upright, but they sought out many inventions." We are left to guess what were the inventions which afflicted the jaded brain and wearied the *blasé* soul of Solomon. So far as his own countrymen were concerned, it seems probable these inventions were not of the practically successful type; for when this great Solomon wished to build a palace and a temple most glorious and grand, he found his own subjects too unskilled for such work; nor had he apparently, with all his wisdom, the "technical" skill to teach them. So he engaged a foreign architect and foreign artificers to design and carry out these vast edifices; for that technical education which was the glory of Tyre was then untaught in Jerusalem, where problems of philosophy, morality, and religion seemed to have exercised the hearts and minds of the people, to the exclusion of proficiency in practically useful arts and science.

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* Read at the Meeting of the Northern Architectural Association, 3rd February 1897.

Perhaps the "inventions" of which Solomon wrote so deprecatingly were of the philosophical rather than practical kind; and possibly had he reigned over the British Isles to-day the King of Wisdom would have been as sarcastic in regard to the old-fashioned "classical" education of the rich men's sons of England as he would have been solicitous for the technical education of the sons and daughters of the middle and working classes. And perhaps he would have discovered in the rank and file of members of the Royal Institute of British Architects some not unworthy Hiram to lead his kingly enterprises and direct them to successful issues. Be that as it may, it is no fancy, but sadly historical fact, that this mighty movement which we call technical education was started in England by a great, good, and wise prince of our own, *by the snubbing of architects.* It was started, too, by the designing and erecting of a vast and beautiful edifice quite different from any great building the world had seen before. And this prince found it necessary to select a man capable of giving effect to his great idea—a man to design that edifice. The architects of England were close to his hand, but he passed them by, and chose instead a "gardener." That prince was "Albert the Good"; that edifice was the Great Exhibition of 1851; and that gardener was Sir Joseph Paxton.

By the opening of that Great Exhibition technical education received its initial impulse in our country, though not then recognised by that name. Eleven years later the second Great Exhibition was opened; and though the Prince Consort, sad to say, died before the opening, he selected the designer of this great 1862 erection also; and again he passed by the architectural profession, and this time chose Captain Fowke, of the Royal Engineers. When asked his reason for so doing, he is reported to have replied, "I find when I want anything out of the ordinary done, if I go to an architect he hums and haws about it; but an engineer gets it done at once."

How often the direction of the first step of a great career influences more or less the whole aftercourse! And it was quite in accordance with that experience that, in turning thus away from the architects of England at the very outset of his beneficent and magnificent enterprise, the Prince Consort unconsciously discouraged architects from feeling and acting towards the technical education movement, thus initiated so warmly and zealously, as they doubtless would have done had their profession not been so severely snubbed. Certainly there were in those days British architects capable of doing what Paxton and Fowke did as well as they, and probably a great deal better. Indeed, it is notorious that the Crystal Palace as originally designed by Paxton was "a hideous pile of glass packing-cases," when the genius of Sir Charles Barry saved it from the doom of such unmitigated ugliness by suggesting the vaulted form of the nave roof. He also suggested the crowning of that roof with glass domes, which would have greatly added to the beauty of the structure had they been carried out.

Yes, there were giants among the crowd of despised architects whom the Prince ignored; and if proof were needed of their great capacity one building alone would suffice to give it—an edifice which, partly from its situation, but not less from its own architectural excellence, has done more than any other building to make London beautiful—a design which has been freely and fiercely criticised by Ruskin and others, but which, in spite of their scorn, stands "a thing of beauty and a joy for ever." I allude to the Houses of Parliament—in view of which we may gravely question the wisdom of Prince Albert in setting the architects aside. But he was a strong-minded prince, and an amateur architect, who liked rather more of his own way in designing than he would have been likely to get from a first-rate architect. Osborne Palace is a specimen of what he could do when he had his own free hand. He was a German, with German tastes. No British architect, with a soul of his own, would regard the soulless blocks of Osborne, with all their Italian elegance and neatness, without ardently desiring that Nature may so cover with creepers its formal walls, and so garnish its prim towers and façades by beautiful English woods and lawns, as to contribute that romance of which the architecture itself is utterly devoid.

We may judge for ourselves of the Prince's taste in architecture without detracting from the splendour of his great achievement in laying the foundations of the system of technical education which now bids fair to become one of the greatest industrial, artistic, and social reforms of our age. By this achievement the Prince has laid us all under eternal obligation, such as we can never adequately repay by our homage to his memory. But the more we realise his worth, the more must we lament that he valued at so low an estimate the worthiness of our professional forerunners to be entrusted with the nation's great new departures in building enterprise, and turned his back on them in the way he did. While we revere his memory, we none the less would honour theirs. And if we look on the Palaces of Westminster and Osborne, on the works of Sir Charles Barry on the one hand, and of Prince Albert on the other, we can form our own conclusions as to who is entitled to the palm of victory in architecture.

There were not wanting British gentlemen in the days of the Prince Consort to challenge his architectural pretensions, and to give the British architect an opportunity of proving his superiority to the Royal German amateur. It is not only in comparing the vaster palace of Westminster with the lesser one at Osborne that the latter suffers by comparison, for many a modern mansion of our fatherland—to say nothing of our older and still grander English homes—would put Osborne Palace in the shade. Even in the Isle of Wight itself, and within a short drive of Osborne, stands the modern mansion called "Apley Towers," which for romantic charm of architectural loveliness and real grandeur, both within and without, makes Osborne seem bald and poor indeed. This noble example of modern Elizabethan was erected by a local squire, who desired to show Prince Albert what British gentlemen and architects could do. The squire did not see his great work completed; but after his death a North-country baronet added the finishing touches.

I mention these things to show that British architects were undeserving of the snub the Prince unfortunately gave them; and to show also that their subsequent lack of prominence in the promotion of the great movement initiated by the Prince Consort was really his fault more than theirs. But, putting all that aside, the time has now arrived when "the dead" past should "bury its dead"; and when we as architects, and at the same time as good citizens, should cease to feel lukewarm towards those great educational movements which Albert the Good, to his everlasting honour, initiated. Already we are, of course, being requisitioned to design the numerous colleges and technical schools which are, happily, being erected throughout the length and breadth of our country; and this fact alone naturally tends to deepen our interest in the movement. But our interest should not be a mere trade or professional one. It should be based on something nobler. We should hail with delight the growing prospect which this movement for technical education affords of tremendous advantages to the thoughtful and eager young self-improvers all over the land. We should watch with intensest interest the action of this new educational plough, as it turns up the virgin soil of the undeveloped intellect and talent of the British common people; for what riches shall be brought to light, and what genius thus be unearthed—who can tell?

It would seem at first sight as if the establishment of technical schools were an act by this nation of the most pure and undefiled selfishness; for it would appear that the nation looks to these schools as a great means of holding our own in the markets of the world against the ever-growing power of the skilful German and clever American. This of itself is certainly a good practical reason why every Englishman should wish well to technical education, and should aid and promote it by every means in his power. But it would surely not be difficult to show that the movement is a sign of the aspiration of a mighty people for a higher life, tending, as technical education does, to reduce the amount of miserably monotonous drudgery to which the vast multitude of our fellow countrymen and women are doomed; and to increase the sum of their interest and happiness in life, in direct proportion as it teaches each workman and workwoman to understand and appreciate the meaning and the beauty of his or her daily tasks.

Technical education is the means by which the worker is not only taught how to do his work better, but is also led to feel and realise that others are intellectually interested in his work; and that, in fact, there is room for intellect to take pleasure in it. Once let a worker realise that, then a new interest is added, and the work becomes thenceforward less a piece of mere drudgery than it seemed before. The youth whose daily toil is too severe to allow of his attending to anything else while it lasts can in the quiet evening wend his way, when work is done, to the technical school, and meet there with professors and fellow-students who can talk to him about his work, and show him many things about it which he did not know; and also interest him by explaining how his kind of work relates to other kinds, and to other workers; and so enlarge his view and increase his respect for his work, and therefore his respect for himself.

This process of technical education cannot long continue without elevating the tone and character of all those workers who avail themselves of the instruction; so that we may expect a general gain of intelligence, skill, and respectability in all trades and handicrafts. How far this gain may grow, and when and where it will cease growing, we cannot tell. But we may be quite sure of this, that any calling which remains stationary while all others are thus going ahead must soon find itself left hopelessly behind. Therefore if we, as architects, are to retain justly the proud position of masters of the technical arts, which position has from the most ancient times belonged to our profession (as its name, *Architecture*, plainly implies), we must individually, as masters and as assistants, as pupils and as students, bestir ourselves; or we shall drop out of the great race of intellect and talent which the technical education movement must inevitably, both in the near and far future, more and more accelerate. For if, unhappily, through our supineness the day should ever come when the bricklayer and joiner can excel us in the arts of construction, and when the plumber and hot-water engineer can expose our ignorance of sanitary science, and of hydraulics and hydrostatics, and when the amateur student in the art school can not only eclipse us in drawing, modelling, and painting, but can also draw and design to better purpose than we can, then we must not complain if the world should come to recognise the fact that we are beaten upon all points, and should bid us stand down, so that others worthier of place on the pedestal of architectural reputation may supersede us, men of greater gifts and larger qualifications than ours, who, coming after us, have, very rightly, been preferred before us.

Such a state of things will never overtake us if we, thoroughly alive to the necessities of the situation now induced by this technical education movement, use reasonable assiduity and earnestness, together with proper humility, in equipping ourselves more and more thoroughly for the impending fight, and in keeping our professional qualifications quite up to date. But this involves the disappearance from our ranks of the idler and the dandy, who, in their shortsightedness and contemptible pride, would deem it *infra dig.* to spend their evenings seated side by side in the technical college or art school with the young artisan; for, depend upon it, the architects of the future will be the men who have learnt by such means all that the night-schools can teach them, in addition to the practical and theoretical experience which they have gained by the daily exercise of their profession in the architects' offices, where they are employed as pupils and assistants.

An architectural student who is wishful to make the most of his time, and yet who must keep himself in health by a certain amount of physical exercise, might usefully substitute for a while for his dumbbells and Indian clubs the joiner's saw and plane, and the mason's mallet and chisel, and the blacksmith's hammer, at the technical school, so killing two birds, as it were, with one stone. The architectural student should not, however, expect to become a skilled amateur mechanic, nor should he give to such manual labour time which ought to be consecrated solely to the study of art and science. The youngest students of architecture ought not to give any large part of their leisure to the study of constructional science; for the first subject of a young student's care should be to cultivate art, pure and simple, except such practical studies of construction which he is sure to encounter in the course of his day's work at the office. Such art as he specially needs, the architectural student can learn under excellent masters in the Central School of Art at Kensington, or in any of its London or provincial branches. He ought not, for the first two years of his pupilage, to use a T-square, straight-edge, or compass at the art school, or anywhere out of office hours. Let him learn, above and before all things, to draw, and then to shade, to paint, to carve, to model in clay; and to do all these things as an artist purely (and not as an architect), and to do them well. No proficiency in the knowledge of constructive science, no dexterousness in the use of level and tape and theodolite out of doors, and of line and rule in the office, will ever atone for a want of competency to do the work of an artist. An architect who cannot draw properly cannot see properly, or think and feel properly. This may seem an absurd statement, but it is most deeply true.

After a youth has been two years absorbing his whole leisure in the passionate pursuit of art, he will, by means of his ordinary day's work in the architect's office, have begun to have an inkling of the necessity of his acquiring structural science. It is better that this should not be forced too suddenly upon him, even by his attendance at the technical schools. Let him grow slowly to realise it, just as the grown man, when the flush of youth is past, has it gradually brought home to him that "life is not all cakes and ale." By forcing too soon on the architectural student the sterner demands of his profession, there is danger of blunting and spoiling his keenest and most sensitive art feelings, which should be encouraged to grow unhindered and unpruned while the brief springtime lasts. No matter if his earlier designs display the greatest ignorance of constructive science, so long as they show the passion and fervour of the artist. If the student be earnest, constructive science will enter in due course into his life and thoughts; and he will not be content so long as it remains unmastered.

At this stage of our subject a powerful consideration presents itself. The division of labour, which has ever more and more characterised the progress of the industrial arts, has gone on from age to age, subdividing all trades and professions, and creating an ever-increasing army of specialists. Thus, in the profession of architecture, we have thousands of practitioners devoting themselves exclusively to particular kinds of work; as, for example, to perspective drawing, to quantity surveying, to valuations and arbitrations, to levelling and land surveying, to the developing of building estates, to iron and steel erections, to the planning of factories, to the designing of churches, hospitals, workhouses, asylums, to works of sanitation, to bridges and roads, and to many other special kinds of work.

It might be possible that this steady growth of specialism in process of time would utterly disintegrate the great profession of architecture, leaving it in rags and tatters of its ancient grandeur, if no other process were in course of action tending to check and limit the disruptive labour-splitting agencies.

That in a state of advancing civilisation, division of labour is to a great degree unavoidable goes without saying. But in the case of our profession it is desirable that it be kept within bounds; for the degrading effect of unlimited division of labour on the dignity of the architect's vocation may be illustrated by the use in America of the meaner cognomen "house artist" in lieu of the grand old title "architect." Surely no right-minded member of our profession would not desire to resist this modern tendency towards the belittling and demeaning of our nobly comprehensive calling. Yet how can we successfully stem the great tide and keep the planks of the grand old ship still fast bound together, instead of permitting them to break adrift under stress of disruptive forces, and go tossing about in separate fragments, each on its own private account? It is in this endeavour to preserve the profession from such disintegration that the technical-school training may help us very greatly. From the necessities of the case, a building which is the production of many trades and handicrafts must have presiding over them one who comprehends them, and is able to direct them so as to produce by the harmony of their combined efforts an entirely satisfactory result. Thus, by virtue of his position, the architect becomes naturally the central person towards whom the constructive arts, trades, and handicrafts necessarily radiate. Each contributor to the great work of brick and stone and timber, slate and glass, &c., knows and understands his own part of the performance. But the architect must know, not only the parts, but the *whole*; for he it is who must guide and control the complicated machine of technical toilers, and must arrange and dovetail its human parts and members so as to produce a harmonious result in every building, great or small, "fitly framed together, and compacted by that which every joint supplieth"; and thus, thanks to him, the building becomes nothing less than a monument of the organised energy and skill of the multitude of skilled men.

There is no aspect of architecture in which it towers so greatly above all the contributory arts as when we thus recognise it as gathering them all under its headship, and uniting them in that common effort which results in a sublime building. But, in order that architects may qualify themselves to direct and control all the arts and sciences employed in the service of architecture, they will need to avail themselves more and more, as time goes on, of all the help which the technical and art schools can render them.

In these schools there will be taught, with increasing force and clearness, as the educational system improves and gathers strength, those eternally true principles which constitute the very essence of art and science, and which unite all crafts by a most real and intimate consanguinity. In these schools the architect can learn to more strongly and clearly realise how the master-key of natural law opens all kinds of locks in the industrial arts and sciences. And it is by possessing himself of this master-key he can enter and govern every chamber of feeling and thought, and every department of skilled labour, in the great pantheon of industrial activities over which it is his true vocation to preside.

When the architect and the artisan have studied art, mechanics, and chemistry side by side in the night-schools, they will not afterwards work together the less, but the more successfully, the one in designing and directing, and the other in executing architectural undertakings.

When the building of the Houses of Parliament was commencing, Sir Charles Barry realised very keenly the need for night-schools, to brighten the minds and improve the skill of the carvers and masons and other young workmen employed in large numbers on the vast erection. An architect directing rudely trained workmen is like a conductor of an orchestra of unskilled instrumentalists. Neither the architecture nor the music can be of the best under such circumstances. How many a skilfully planned roof has suffered in execution from the badly fitting "cuts" of ill-trained carpenters; and how many a nobly conceived façade has permanently suffered from the wretched carving of novices, executed in too many instances from the execrable "original designs" of the architect himself, who, clever enough in planning and designing other things, is sadly too often utterly incompetent to either design or draw a piece of carving; and who is particularly deficient of power to design and draw the human form divine, a power he may acquire by diligent work at the art school, and a power without which he is greatly limited and belittled in comparison with architects, like the great Michelangelo, to whom the knowledge of the human figure was at once the base stone and the crowning stone of art. A comparatively few years ago it was notorious that the late William Burges was the only architect in England who could design and draw the human figure. The schools of art have done something to improve that disgraceful state of things; and they will do a great deal more. And when, ultimately, the architects of England no longer merit that reproach, it does not necessarily follow that the human figure will appear amongst our architectural decorations much more frequently than now; for the greatest linguists are not necessarily the greatest chatterers. But when the human figure is introduced it will be of great force and value as an architectural adornment, instead of, as too frequently now, a mere exhibition and exposure of barbarous incompetency. And while the superior art-training derived from the Government night-schools in this and in many other ways must eventually succeed in both purging and enriching the future architecture of England, Scotland, Ireland, and of our great and rapidly growing colonies, the technical education, now being everywhere added to such art-training, will simultaneously induce great improvements in structural methods and workmanship, the ultimate issues of which we in this age cannot well imagine.

In prospect of these hoped-for improvements and unimaginable changes of architectural style and method, which the advance of education promises in time to reveal, and while the future still hides in it these fruits of the new era now in bud, there is one thing we may confidently assert—namely, that, before such happy fruition is realised, the practising architects of the present day will no longer be to the front, and so will be spared the humiliation of seeing their proudest works discredited and outclassed by the new architecture, whose motive force will have been so largely augmented by the Government schools of art and of technical education.

You who are here to-night who are young—and who have so much to learn and to do—you, by the help of these splendidly organised schools, may and must increase; while others of us here who are no longer young, and who have learnt and done what we could with the much smaller aids at our command, must decrease. None the less do we rejoice that you young students enjoy opportunities which were not granted to us; and all the more we urge you to use them well; and in conclusion we would bid you, and those glorious institutions which are ready now to help you, God speed!

Discussion.

The Chairman (Mr. Frank W. Rich), in moving a vote of thanks to Mr. Caws for his excellent Paper, urged that life was too short to permit an architect to become an expert handicraftsman. To go through the shops of the various trades properly, the architect would need to spend about four years in each shop, and quite a working lifetime would be spent before the process was completed. Moreover, such a process was quite needless, as the young observant architectural student is able to take, as it were, a bird's-eye view of all the trades, and to acquire an excellent understanding of them, without himself becoming proficient in the use of tools. He entirely agreed with the Paper, that the first and foremost consideration of the architect must be proficiency in art. The teaching of the arts employed in architecture could be successfully carried on in the night-schools by able professors. But architecture proper could only be taught by an architect in good practice, and attempts to teach it otherwise must prove saddening failures.

Mr. J. W. Taylor [*F.*], in seconding the vote of thanks, thought it a good thing for a young architect to learn to use tools. He was afraid there might be some difficulty in carrying out the proposals of the Paper, that architect-students should work in the technical schools side by side with mechanics; for he understood that in some technical schools amateurs were not permitted to work with the *bonâ fide* mechanics. He deeply appreciated the high tone of the Paper, and the admirable ideal it advocated.

Mr. T. Reay supported the vote of thanks, and expressed his entire concurrence with the Paper, which he understood to contend that the young architect would do well to exercise himself physically in the use of tools at the schools, without in any degree withdrawing from his study of art, which was to be always the main consideration.

Mr. A. B. Plummer [*F.*] (Hon. Secretary) said he had a special reason for supporting the vote of thanks; for Mr. Caws had kindly hastened the writing of his Paper, and had read it a fortnight earlier than the date originally fixed, because the gentleman who was to have given a Paper that night had written a few days previously, that he found himself unavoidably prevented. Mr. Plummer added that in his opinion young architects might improve their practical knowledge by acting for a short time as deputy clerks of works.

The Chairman said he would prefer a competent clerk of works, trained in an architect's office, to one who had been simply a mason or joiner, because the architect took a more comprehensive grasp of all the trades, while the mechanic was liable to pay too much attention to his own trade, to the comparative neglect of the other trades.

Mr. J. W. Hanson, uniting warmly in the vote of thanks, spoke strongly in favour of architects undertaking the work of teaching in the Government night-schools those arts and sciences which particularly relate to architecture. He argued that they are naturally, of all persons, the best qualified for such duties.

In the course of the evening a vote was unanimously passed in support of the Report of Mr. Pearson, as architect of the proposed restoration of the west front of Peterborough Cathedral.

9, Conduit Street, London, W., *4th March* 1897.

CHRONICLE.

Suggested Standard Size for Bricks.

At the Meeting of Monday, the 1st inst., Mr. Owen Fleming, pursuant to notice, moved the following resolution :—"That it be referred to the Science Standing Committee to consider the desirability of formulating a definite standard size for bricks." Mr. Fleming said the matter did not call for much explanation; it was simply an attempt to get rid of the difficulty that arose on works when bricks were used from different manufacturers in different parts of England. All members of the Institute knew these difficulties, and it was unnecessary to refer in detail to the troubles that ensued when facing bricks were, say, one-sixteenth of an inch longer than the body of the work. The question had been discussed by the Clerks of Works' Association and by other practical authorities on brickwork. It had therefore been thought desirable that the Institute should formulate some definite size that would be known in the brick trade as the Institute Standard; then the brickmakers would gradually adopt this standard as they laid down new plant. The difficulty, trouble, and cost now involved by reason of the present irregularity would then be greatly reduced. He did not know whether it was possible for the Science Committee to do as he had suggested, so he had brought forward his motion for their consideration. If they would accept it, something would be saved in the difficult work of building. —Mr. Francis Hooper [*A.*] seconded the motion, thinking it a very happy extension of the work already undertaken by the Science Committee in connection with the brickwork tests, and that it would be highly satisfactory if the Institute could take the initiative in so desirable a matter.—Mr. Fleming's motion was thereupon agreed to.

The Institute Conditions of Contract.

At the same Meeting Mr. Wm. Woodward [*A.*] asked permission to refer to the new Form of Contract issued by the Institute. There was, he said, considerable misconception in the minds of builders and architects with reference to these Conditions. At the last Annual General Meeting he (Mr. Woodward) had stated that first-class builders absolutely declined to sign the new Conditions; and Mr. Slater and Mr. Edwin T. Hall had traversed his statement. He was then told that one eminent contractor had purchased fifty copies of the new Form. He wrote to that contractor, and was informed in reply that he had not purchased the Conditions. He, however, had just signed the new Conditions, but they had been so altered that most of the objectionable clauses had been removed or modified. He (Mr. Woodward) then wrote to the Secretary of the Association of Master Builders of London, asking whether or not his statement was accurate. That gentleman replied, under date 14th May, that the statement that the builders sign contracts based on the new Conditions was to the best of his knowledge quite devoid of foundation, and, further, that he knew of instances where they had been refused; and on its being pointed out to architects that the Conditions were not agreed with the Builders, they at once substituted the old Form. He (Mr. Woodward) had received a letter from Mr. Robert Williams, under date 27th February last, in which he stated that he had had an absolute refusal to sign the new Conditions by one of the largest builders in London, and he knew of other architects who had been similarly treated. According to these statements, the observation he had before made seemed perfectly accurate; and the best thing the Institute could do was to at once withdraw the new Form and revert to the old one, which were excellent Conditions, and answered every purpose. He was quite sure that if his suggestion were adopted architects would be relieved of considerable trouble, and the Builders' Association would be brought into harmony with the Institute.—The Honorary Secretary stated that since the new Form had received the sanction of the Institute nearly three thousand copies had been sold. He did not suppose they were all wasted.

Sessional Papers 1897.

The following Papers will be read at the remaining Meetings of the Session, at 8 P.M. :—

Mar. 15.—HERALDRY IN ENGLISH MEDIÆVAL ARCHITECTURE. By Mr. W. H. St. John Hope, M.A., F.S.A.

Mar. 29.—HERALDRY OF THE RENAISSANCE IN ENGLAND. By Mr. J. Alfred Gotch, F.S.A.

Apr. 12.—A Paper under the management of the Art Standing Committee.

Apr. 26.—*Special General Meeting.*—THE NEW GOVERNMENT OFFICES SCHEME. By Mr. H. Heathcote Statham.

May 17.—THE PARTHENON. By Mr. F. C. Penrose, F.R.S.

It was intended to devote one evening only this Session for the consideration of Heraldry in connection with Architecture, but it was found impossible to do justice to a subject possessing so many points of interest, and extending over a long period of history, at one Meeting. The subject, therefore, so far as it treats of heraldry in its application to buildings in England, is to be divided as follows: Heraldry in Mediæval Times, and Heraldry of the Renaissance. The two Papers will be illustrated by numerous lantern slides, many of which have been specially prepared for the occasion. As the subject has not hitherto been treated at the Institute in any systematic form, it is hoped that it will prove attractive to a large number of members and their friends. Cards of invitation will be issued on application. The Meeting of the 26th prox., it will be observed, is an extra Meeting, to be specially convened by the Council for the consideration of the important subject to be brought forward that evening by Mr. Statham.

Architects' Benevolent Society.

The Forty-seventh Annual General Meeting of the Architects' Benevolent Society will be held in the rooms of the Institute on Wednesday, the 10th inst., to receive the Treasurer's statement of accounts, to adopt the Report of the Council, and to elect members of the Council in the place of the five senior members who retire every year by rotation. It will also be the duty of the Meeting to elect a new Honorary Treasurer in the place of Mr. Arthur Cates, who, having served for seven years with great benefit to the Society, has expressed his desire to resign. It is hoped that there will be a good attendance of contributors. The names and contributions of new members will be announced at the Meeting.

The late Edward Howard Dawson [*A.*].

An Associate of great promise recently passed away in Mr. E. H. Dawson, of Warton Hall, Lancaster, who died last New Year's Eve, at the age of thirty-two. He was the son of Mr. E. B. Dawson, LL.B., of Aldcliffe Hall, Vice-Chairman of the Lancaster Quarter Sessions, and served his articles with Mr. G. B. Oliver [*F.*], of Carlisle. While studying for the Obligatory Examination he was a pupil of the late Mr. E. J. Tarver. He was elected an Associate of the Institute in 1888, and shortly afterwards commenced practice in Lancaster. He was entrusted with many important works, including the supplementary buildings at the Lancaster County Asylum, the Congregational churches at Grange and Carnforth, the additions to the Centenary Congregational Schools, Lancaster, and had just completed the designs for the Storey Home, intended to be erected by Sir Thomas Storey as an adjunct to the Royal Albert Asylum. He also carried out the interior alterations in the courts and other rooms at Lancaster Castle, the additions and alterations to Warton Grange, and the new buildings for the Lancaster Banking Company at Morecambe, Carnforth, Blackpool, and Preston. He was an active public worker, being Chairman of the Parish Council at Warton, a member of the Lancaster Board of Guardians, one of the managers of the British School, Warton, Chairman of the Local Technical Instruction Committee, and President of the Warton District Ploughing and Hedging Association. Mr. Dawson married a daughter of Mr. E. Storey, of Croftlands, in December 1893. He was held in high regard, and his decease was deeply lamented in Lancaster.

Books received for Review.

Monograph on the Cathedral Church of Wells. By Alfred A. Clarke. Illustrated from original drawings by the author. Ordinary edition. Sm. 8o. 1*s.* 6*d.* net. Large paper edition, limited to 200 numbered copies, 3*s.* 6*d.* net. Wells, 1896. [Arthur Young, High Street, Wells.]

Addresses delivered to the Students of the Royal Academy, by the late Lord Leighton. 8o. Lond. 1896. Price 7*s.* 6*d.* [Kegan Paul, Trench, Trübner & Co., Limited, Charing Cross Road, W.C.]

Manchester Old and New. By William Arthur Shaw, M.A., Fellow of Owens College. With illustrations after original drawings by H. E. Tidmarsh. 3 vols. Large 4o. London, Paris, and New York. Price 31*s.* 6*d.* [Messrs. Cassell & Co.]

Ironwork, Part II. Being a continuation of the First Handbook, and comprising from the close of the Mediæval Period to the end of the eighteenth century, excluding English work. By J. Starkie Gardner. With 134 illustrations published for the Committee of Council on Education. 8o. Lond. 1896. Price 3*s.* [Messrs. Chapman & Hall, Limited, 11, Henrietta Street, W.C.]

Ventilation and Heating. By John S. Billings, A.M., M.D. Large 8o. New York, 1893. Price 25*s.* [*TheE ngineering Record*, London office, 92–93, Fleet Street, E.C.]

Handbook to Gothic Architecture, Ecclesiastical and Domestic, for Photographers and others. By Thomas Perkins, M.A. 8o. Lond. 1897. Price 3*s.* 6*d.* [Hazell, Watson & Viney, 1, Creed Lane, Ludgate Hill, E.C.]

Quantity Surveying, for the Use of Surveyors, Architects, Engineers, and Builders. By J. Leaning. Third edition, revised and enlarged. 8o. Lond. and New York, 1897. [E. & F. N. Spon, Limited, 125, Strand; Spon & Chamberlain, 12, Cortlandt Street, New York.]

Additions to the Library.

A valuable contribution to the literature of Renaissance Art has been added to the Reference Library in M. Charles Yriarte's *Un Condottiere au XV^e Siècle. Rimini: études sur les lettres et les arts à la cour des Malatesta*, studies based on Italian archives and State papers. [Paris: Rothschild, 1882.] M. Yriarte devotes considerable space to the consideration of Alberti, the great Renaissance architect, and to the Tempio Malatestiano. The book contains 200 engravings.

Mr. James Neale [*F.*] has made a handsome donation to the Loan Collection by the presentation of a copy of his well-known and exhaustively illustrated work on St. Alban's Abbey.

The National Sculpture Society, a society founded in New York with the idea of spreading the knowledge of sculpture and of promoting its use in the decoration of public buildings and other public places, have forwarded the articles of their constitution, the President's *Report* for the current year, and a memorial paper by Mr. W. C. Brownell on the work and life of the late Olin L. Warner. Mr. Barr Ferree [*Hon. Corr. M.*] is the Secretary of the Society.

From M. Charles Lucas [*Hon. Corr. M.*] has been received a paper read by him before the sixty-first Congrès Archéologique de France, held in 1894 at Saintes and La Rochelle, entitled *François Blondel, à Saintes, à Rochefort, et aux Antilles*, in which he gives some particulars regarding Blondel's executed works at the two first-named places, and some interesting information regarding his expedition to the West Indies.

Professor J. C. Raschdorff [*Hon. Corr. M.*] has presented *Der Neubau des Domes zu Berlin*, being a lecture which he delivered at the Berlin Industrial Exhibition last year; and *Dom zu Berlin*, being a collection of nine folio plates of the model for the Cathedral designed by Professor J. C. Raschdorff, assisted by Professor O. Raschdorff. At the International Art Exhibition held in Berlin to celebrate the 200th anniversary of the Academy of Arts, Professor J. C. Raschdorff, the architect of the new Cathedral, was awarded the International Gold Medal.

In the last number of the *Archæological Journal* (vol. liii. No. 212) Mr. George E. Fox deals with the "Roman Coast Fortresses of Kent," *Regulbium* (Reculver), *Rutupiæ* (Richborough), and *Portus Lemanis* (Lympne); and Mr. J. T. Micklethwaite contributes a lengthy paper entitled "Something about Saxon Church-Building," with plans, &c.

REVIEWS. LII.

(143)

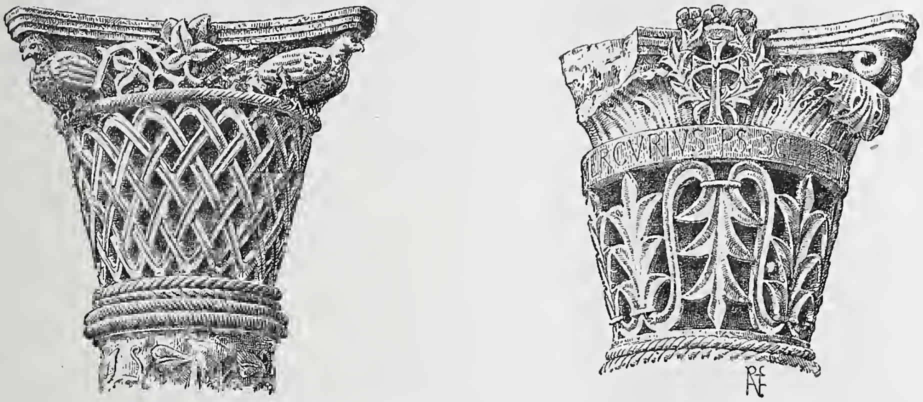
ITALIAN ARCHITECTURE—SIXTH TO ELEVENTH CENTURY.

Architecture in Italy from the Sixth to the Eleventh Century. Historical and Critical Researches by Raffaele Cattaneo, translated by the Contessa Isabel Curtis-Cholmeley in Bermani. Illustrated. 4o. Lond. 1896. Price 21s. net. [T. Fisher Unwin, 11, Paternoster Buildings.]

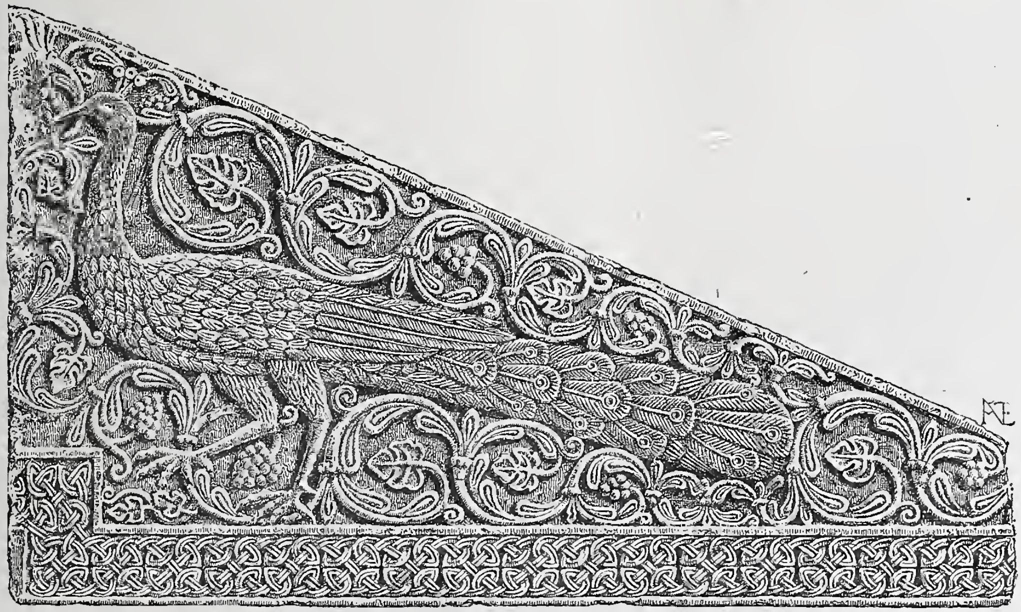
The author of the work of which this is a translation, the late Professor Raffaele Cattaneo, was born in Rovigo in 1861. He evinced an early talent for drawing, chiefly of architectural subjects, and at the age of fourteen, whilst his schoolfellows were one day working at nouns and verbs, he amused himself by minutely drawing in pen-and-ink and in twenty-four little squares the parts of the principal edifices of an imaginary city, symmetrically placed round its general view, its plan being also given on the back of the leaf. This drawing served as his passport to the Academy of Fine Arts in Venice, which he entered in 1876, studying there four years. He here displayed in his studies such imagination and originality in design, and so much indefatigability in his researches, that whilst still a pupil he was able to act occasionally as an efficient substitute for the professorship of Art History, and in 1880, when nineteen years old, had the diploma of Professor conferred on him. In the following year he designed and carried out the Gothic chapel attached to the Zanotto College in Treviso. The success of this chapel and various erudite essays which he produced brought him to the notice of the Papal Government, and he was selected to design and carry out the monument to the memory of Pio IX. in the crypt of San Lorenzo extra-muros in Rome. This and other works led to his receiving, first, the Cross of the Order of St. Gregory, following with the title of Knight Commander of the Order of Pio IX., and finally with a life annuity which was conferred on him only a few days before his death. He died of malignant smallpox on the 6th December 1889.

Though trained and practising as an architect, Cattaneo would seem already at a very early age to have devoted himself to the study of the archæology of his own country, and more particularly with that phase of it which elucidated the architectural history of the Church of St. Mark's at Venice. The last three years of his life were devoted to its constant study, and the work here translated must in some respects be looked upon as the preface to the great task he undertook when asked to write the text in Ongania's great work on St. Mark's. This he did not live to complete; but by way of preparation he published in 1888–89 the work of which this is a translation. The larger work, published in 1889, was edited by Professor Boito, from whose *In Memoriam* the particulars above given have been gleaned.

The title of his book, *Architecture in Italy from the Sixth to the Eleventh Century*, might have been called the Influence of Byzantine Art in North Italy and Rome, for the greater part of the text and illustrations are devoted to the analysis and minute examination, not only of early structures still existing, but of every fragment of ornamental sculpture which he was able to trace in the various lapidary museums of Italy. Cattaneo, who from the first was a most skilful and patient draughtsman, had, by the continual delineation of the details and ornament of the actual fragments, acquired such a knowledge of their design and execution that he was able to pronounce, not



CAPITALS OF THE ANCIENT CIBORIUM OF ST. CLEMENT, ROME.



FRAGMENT POSSIBLY BELONGING TO THE AMBO OF ST. SAVIOUR, BRESCIA.

only the period of their execution, but the probable source of their inspiration. It is from this point of view that his clear analysis, accompanied as it is by copious illustrations, becomes of the greatest service to those interested in the subject. Nothing seems to have escaped him, so that we have a record, a catalogue *raisonné* of a very large series of artistic treasures, archæological and otherwise, of the greater portion of which but few knew the existence. By the kindness of the publishers reproductions are given of three of the blocks: Nos. 1 and 2, capitals of the ancient ciborium of the Church of St. Clement, Rome, A.D. 514–523, clearly due to a Greek chisel. The capital of No. 1 is placed on an ancient carved Roman shaft. In illustration No. 3—a fragment supposed to have belonged to the ambo of St. Saviour, Brescia, and dated eighth century by Cattaneo—we have an example which, though inspired by and possibly copied from a Byzantine original, suggests an entirely different method of interpretation from that which is found in Byzantine Greek work. Here, probably, the Lombard artist comes in. Later on in Cattaneo's book, p. 321, fig. 159, Parapet of St. Mark, made by order of Pietro Orseolo I., A.D. 976, we find the Italian artist, though still inspired by Byzantine *motifs* has elaborated a style of his own. One of the most valuable parts of the book is devoted to a long dissertation on the Church of Sant' Ambrogio at Milan, ascribed by De Dartein to Archbishop Ansperto (868–881), but which Cattaneo proves conclusively to be a work of the eleventh and twelfth centuries. The work concludes by an elaborate description, admirably illustrated, of the treasures at Venice and Murano, just hinting at the subject which Cattaneo proposed to take up in his next work, viz., the history and dates of the Church of St. Mark. He simply contents himself here with pointing out that the five-domed church, hitherto ascribed to the Doge Orseolo, 976, was not erected till 1063–70, by the Doge Domenico Contarini, and he gives a large number of illustrations of Orseolo's work, capitals, parapets, and other ornamental features, which, sculptured for Orseolo's restoration of the old basilica, and always recognised to be of his period, were subsequently used up in Contarini's domed structure.

The translation just published forms a sumptuous volume nearly twice the thickness of the original, with clear, distinct type, and with illustrations printed apparently from the same woodblocks. It is unfortunate, however, that the translator or the publishers did not take the precaution of sending the proofs to an expert in English architectural terms. It is doubtful whether the translator herself quite understood the meaning of the terms in the Italian version, and in endeavouring to translate them literally she has not only coined an immense number of new words which are as yet unknown in the English language, but she has misinterpreted others. This being the first translation of any of Cattaneo's books in England, it was of importance that it should be rendered into intelligible English, so that those who desire to follow his arguments should not be obliged to refer to the Italian version to see what he meant to say. It would be impossible to give a tithe of the errors which abound throughout the work, but the following will give some idea of the trouble into which the translator has plunged the reader. The translator's version is in italics: throughout the work *absis* is used for apse, *little naves* for aisles, *apsidioles* for small apses, *semi-annular* for semicircular, *channelled columns* for fluted columns, *pillastrini* for stone posts, *braids* or the *interweaving of withes* for the guilloche pattern; p. 18, *wide lagoon* should be wide gulf. (The translator has misread lacuna for *laguna*.) Then, p. 45, *spindles* and *baquets* for beads and sunk panels; *narteci* for transept; p. 63, "sgorbs" for rubbish; p. 64, *closed trafori*, pierced marble slabs; p. 65, *cupola a spiechi*, dome on pendentives; p. 82, *fronton* for pediment or gable; p. 99, *casement*, socket; *antique corridietro*, ancient stone posts; p. 113, *vault of crosier pattern*, intersecting barrel-vault; p. 134, *the sheep* that swear, the blockheads that swear (the translator has mistaken Pecoroni : blockheads, for *Pecorini* : sheep); p. 154, *contour of gyres*, borders of foliage.

It will be well understood that with so many misconceptions of English architectural terms it is very difficult to follow Professor Cattaneo's arguments. R. Phené Spiers.

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ANCIENT COPTIC CHURCHES OF EGYPT.

The Ancient Coptic Churches of Egypt. By Alfred J. Butler, M.A., F.S.A., Fellow of Brasenose College, Oxford. 2 vols. 8o. Oxford, 1884. *Price* 30s. [*Oxford University Press Warehouse, Amen Corner, E.C.*]

It is almost necessary to explain the object of these two volumes by the following quotation from the author's Preface:—"The aim of this book is to make a systematic beginning upon a great subject—the Christian Antiquities of Egypt. Few subjects of equal importance have been so singularly neglected. One writer admits that the Coptic church is still 'the most remarkable monument of primitive Christianity'; another that it is 'the only living representative of the most venerable nation of all antiquity'; yet even the strength of this double claim has been powerless to create any working interest in the matter. No doubt the attention of mere travellers has been bewitched and fascinated by the colossal remains of pagan times, by the temples and pyramids which still glow in eternal sunshine, while the Christian churches lie buried in the gloom of fortress walls, or encircled and masked by almost impassable deserts. Yet the Copts of to-day, whose very name is an echo of the word Egypt, trace back their lineage to the ancient Egyptians who built the pyramids, and the ancient tongue is spoken at every Coptic mass. The Copts were among the first to welcome the tidings of the Gospel, to make a rule of life and worship, and to erect religious buildings; they have upheld the Cross unwaveringly through ages of desperate persecution; and their ritual now is less changed than that of any other community in Christendom. All this surely is reason enough to recommend the subject to churchman, historian, or antiquarian."

It may be supposed that this appeal will find a response from every real student, to whatever class of investigation he may belong. To the architect these ancient Coptic churches have a special claim on his attention; and his interest in them will not suffer by reading the two valuable volumes Mr. Butler has produced. He has evidently spared no time or careful study in acquiring the necessary material which fills his book. This material is so extensive and full of minute detail, it will become a valuable work of reference in the future.

As the author states, the Copts were early converts to Christianity, and their churches, on that account, must represent an early type of structure. Some of those at Old Cairo date their foundation as early as the third century. But there were earlier churches than these. Makrîzi records the destruction of many of them in Alexandria, by order of Severianus, as early as 200 A.D., and now there is not a Coptic church in Alexandria. It is only in Old Cairo, the Natrun Lakes, and at various places up the Nile that they are found. This early date of these churches suggests that possibly there might be found in them traces of the form and arrangements of the first buildings that were constructed for Christian worship, and thus give us the solution of problems that yet remain doubtful. There is the basilica type, with questions related to it. The author expresses doubts about the usually accepted theory, and says:—"The Christian basilica had thus probably a non-Roman origin in Egypt and elsewhere." There is also the square or octagonal form of Greek churches, which is no doubt derived from another type. The apse and its origin is an interesting subject;* to this might be added the mihrab of the Mohammedan Musjid, the origin of which I have not, in my reading, chanced to notice any attempts to explain. Was it copied from the apse, or were both copied from some pre-existing model? The apse is a marked feature of the old Coptic churches; and in addition there is in almost all of them a niche in the apse. At p. 39, Vol. I., Mr. Butler has some remarks on the resemblance of this niche to the mihrab; he says it is "a striking coincidence," but does not attempt to trace the matter further.

In 1868 I was in Abyssinia with the expedition under Lord Napier; on the route going and coming from Magdala I visited and sketched many of the churches in that country. After my return I read a Paper at the Institute on "Abyssinian Church Architecture," which is published in the TRANSACTIONS for 1869. The Abyssinian churches are Coptic, and may be looked upon as an extension of the Coptic church of Egypt. The Abyssinian Abuna, or Bishop, was appointed by the Patriarch of Alexandria, and sent from that city, sometimes in chains, like a prisoner, as they at times objected to go into such a distant and uncivilised country, which was looked upon as an equivalent to banishment. As the Abyssinian churches are Coptic, they form a part of the subject which our author wishes to have studied. Mr. Butler traces Coptic churches, or the remains of them, as far south as Korosko and Abu Simbal; but they can be traced farther south than that. Ethiopia became Christian as early as the time of Justinian: this was the region we now know as the Soudan, and not Abyssinia, for it is supposed, on the authority of Edrisi, to have become wholly Mohammedan in the twelfth century. Queen Candace, whose treasurer Philip baptized,† ruled in Meroë, which extends south, close to the present Abyssinian frontier; and we may conclude that at one time Christianity covered—probably, in a fragmentary way, in many spots—all the space from Alexandria to Axum and Gondar.

This being the case, the churches of Abyssinia may be looked upon as forming part of the subject, and I propose here to show where there is some resemblance, and where they appear to differ from the churches of Egypt. This is about the only criticism I can offer; and it may, perhaps, have the merit of adding something in the way of knowledge to the subject Mr. Butler is so desirous of seeing studied.

A comparison of the rock-cut church at Dongola,* with the plans of Coptic churches in Mr. Butler's book, presents a very striking resemblance. In this rock-cut church there are the three aisles, the middle one terminating in the east with a circular apse form, the other two being square. There appears to be niches in each of these, but they are not round. Salt gives the plan of a rock-cut church at Chelikut, which is very like this one; but the apse at the end of the aisles is in each case square. I have a rough sketch plan of the remains of what had been a built church. The foundations only exist now, at Agoola, and it seems, so far as one can judge, to have a similar plan to the others. The apses are square.

The Dongola church was dedicated to a favourite boy-saint of Abyssinia, and from him it is named Kados Kirkos: the date given of its excavation is 333 A.D.,† and its reputed founders were twins, emperors who reigned at that time, when Christianity was first introduced. One was named Atsbaha, "The Dawn," and the other Abraha, "The Light." That was information I received at the time from some one, but I cannot now recall the source, and consequently its accuracy may be doubtful; but it agrees with the traditional date which is given for the conversion of Ethiopia by Frumentius, the first Bishop. The Dongola church was explained as being three distinct churches, the nave forming the Church of St. Kirkos. The northern aisle is the Church of St. Mariam, and the south aisle the Church of St. Gabriel [see fig. 1]. This agrees with what Mr. Butler says of the Coptic church in Egypt: it "has always three eastern chapels, each with its own altar, its own entrance and its own iconostasis, and all standing in a line upon the same platform."‡ In the Church of Abu Kîr wa Yuhanna, at Old Cairo, the "north side-chapel is dedicated to Al'Adra, and the south to Mâri Girgis." §

In one of the churches of Old Cairo which I visited—with a friend who could speak the

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[*] Professor Baldwin Brown has written on this subject, as well as the origin of the Basilica, in *From Schola to Cathedral*, published in 1886.

[†] Acts viii. 27. According to Alvarez, Queen Candace became a Christian, and resided in Abyssinia.

[*] Not the Dongola on the Nile, but a place with the same name between Adigerat and Antalo, in Abyssinia.

[†] Corresponding to the European reckoning of 325 A.D.

[‡] Vol. 1, p. 32.

[§] *Ibid.* p. 259.

language—I made inquiries about another threefold division, and understood from the answers that it was recognised in these churches. This division is on the line of the church from west to east. In the Russo-Greek Church it is described as the porch or entrance; the body of the church, where the congregation stand; and the Sanctuary. I still remember that I was rather particular on this point, and caused my friend to cross-question the people of the church. But it is quite possible that they may not have caught the exact meaning of the inquiries, but I have not noticed any mention of such a division in Mr. Butler's work; and, as he gives so many details, he would surely not have overlooked this.

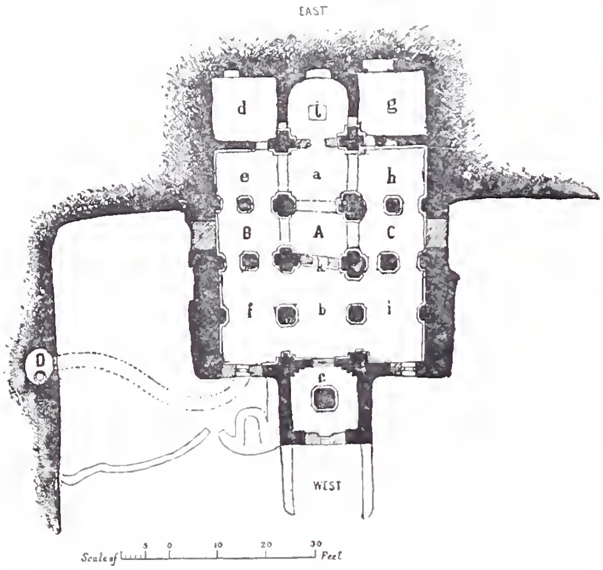

FIG. 1.—PLAN OF THE ROCK-CUT CHURCH OF DONGOLA.

A, the nave or central Church of St. Kirkos. a, the Makdas, or Sanctum; b, the Kudist; c, the Porch or Kuneh-Mahelet. B, the Northern Aisle or Church of St. Mariam. d, the Makdas; e, the Kudist; f, the Kuneh-Mahelet. C, the South Aisle or Church of St. Gabriel. g, the Makdas; h, the Kudist; i, the Kuneh-Mahelet. J, the Stone Tabût or Altar. k, dwarf wall separating the Makdas from the Kudist in the Central Church. D, Beatalehem or House of Bread.

My reason for asking about this distinction was because it is a very marked feature of the Abyssinian churches. In the Dongola church I was told that each of the three churches had this division. The Sanctuary is called the *Makdas*;[*] the priests only enter it. The second court is called the *Kudist*, and the outer court is the *Kuneh-Mahelet*, from a psalm or song, as the singers stand there.

The points of similarity between the Coptic churches of Egypt and these old churches of Abyssinia may be easily accounted for by the Abuna having been sent from Alexandria. The Cathedral church is at Axum, and, judging from illustrations, it appears to be rectangular in plan—in contradistinction to the round form which is peculiar to the South. This would also account for the square form predominating in the North.

The true Ethiopian church is supposed to be the round form which is found in the southern part of Abyssinia; and it is said to be derived from the pre-existing temples of the Falashas, or Jews (see fig. 2). The threefold division is understood to have been in imitation of the Temple of Jerusalem. The Falashas entered from the east, thus again following the rule of the Temple; and that, on the conversion of the Abyssinians to Christianity, they only changed the direction of the orientation, and made the door on the west.

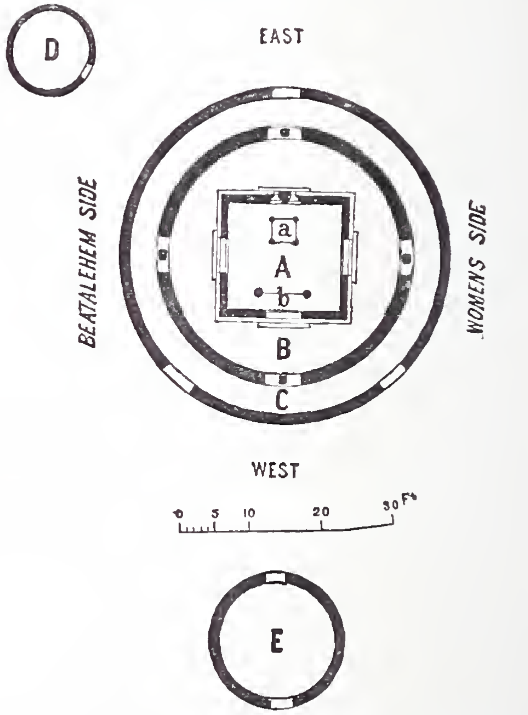

FIG. 2.—PLAN OF ROUND AMHARA OR SOUTHERN CHURCH.

A, Makdas, or Sanctum. a, Tabût, or Ark—the altar. b, the Veil. B, Kudist, or Second Court. C, Kuneh-Mahelet, or Third Court. D, Beatalehem, or House of Bread. E, Deja-Salaam, or Gate of Bowing-down. This last is the entrance to the enclosure within which the church stands, and the name indicates that an obeisance is made on entering.

There are Falashas still in Abyssinia; but I did not chance to see any of their places of worship. I made a sketch plan of one of these round churches which is sufficient to convey a fair idea of their arrangement.

The Makdas, or Sanctum, is square in plan, and built of solid material. The second court is in the form of a circle, which surrounds the Holy of Holies; and the outer court is also formed by a circle, which encloses the other two. In the Makdas there is the Tabût, or Altar: it is concealed by a veil suspended between two posts, so that those standing at the west door, where they receive the sacrament, cannot see it. The entrance on the north side is called the "Beatalehem Door," because it communicates with a small house on the outside where the bread and wine—this last being only the juice of raisins—are prepared: to this house the priest and assistants go in their full vestments, and return with the elements, as a professional ceremony. The walls of the outer circles are generally formed of posts with wattle-and-dab, the whole being covered with a thatch roof.

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[*] Many of the words used in Abyssinia in ecclesiastic affairs are Hebrew, or Arabic. Makdas is the same as the Arab *Muqaddas*, and the Hebrew קדש, both meaning "holy" or "sacred." In the churches of Cairo the sanctuary is called the "Haikal," which is also Arabic and Hebrew, meaning a temple, or place of worship.

Some have supposed that this rude circular structure is derived from the primitive African round hut. It certainly presents no appearance of affinity to the old Coptic churches of Egypt.

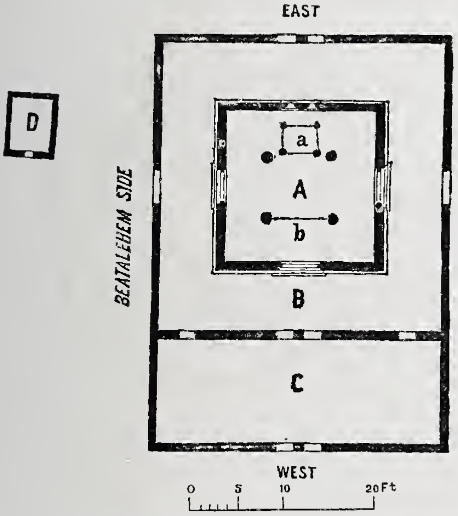

FIG. 3.—PLAN OF SQUARE OR NORTHERN CHURCH.

A, Makdas, or Sanctuary. a, Tabût, the Ark or Altar. b, the Veil. B, the Kudist, or Second Court. C, the Kuneh-Mahelet, or Third Court. D, the Beatalehem, or House of Bread.

In Tigre, and the northern part of Abyssinia, we find in many of the churches a curious mixture of the two forms (see fig. 3). In the Church of St. Kirkos at Addigerat, the Sanctum is square and Abyssinian in its details; but the second court is also square, and the outer court is a narthex, or only a porch, on the western side. Although square, this is essentially after the Abyssinian type. On the other hand, in the Church of St. Miriam at Focado, the plan of the old churches of Cairo has been evidently followed (see fig. 4).

In the Abyssinian church the "Beatalehem," or Bethlehem, "The House of Bread," where the bread of the sacrament is prepared, is peculiar. Mr. Butler does not mention this name as being found in the Cairo churches; but their practice implies something very similar. He says that the bread "must be baked in the oven attached for that purpose to most, if not all, of the sacred buildings." * It must be done by the doorkeeper, or sacristan, who has to chant fixed portions of the Psalms while doing so. There is no Epiphany tank in the Abyssinian churches, such as Mr. Butler describes as being within the churches at Cairo. On this festival the nearest stream is resorted to by the Abyssinian priests, who go in grand procession, with all the ecclesiastical paraphernalia, where, after the water is blessed, every one bathes.

There has been much ecclesiastical controversy about altars; and the subject is in some of its aspects rather obscure in the Coptic church. Writing of the altar in the Cairo churches and its character as a table, the author states that the Copts "are not apparently conscious of any such symbolism; nor do they commonly, if ever, speak of the altar as a table; although they do regard it under two other symbolical aspects, as representing the tomb of Christ and the throne of

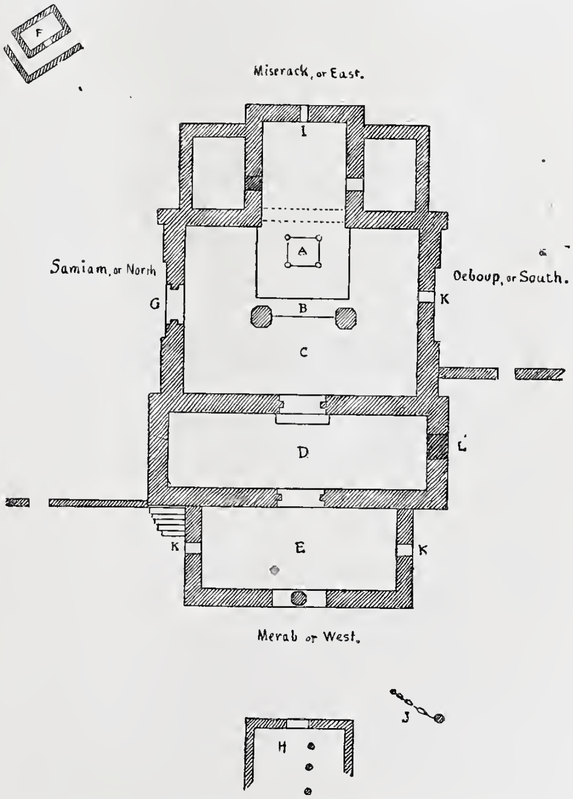

FIG. 4.—PLAN OF CHURCH OF ST. MIRIAM, AT FOCADO, ABYSSINIA.

A, the Tabût, or Ark. B the Veil. C, Makdas, or Holy of Holies. D, Kudist, or Second Court. K, Kuneh-Mahelet. F, Beatalehem, or House of Bread. G, Deja Beatalehem, or Bethlehem Door. H, Deja Salaam or Gate of Bowing-down. I, Gate, or Window of Light. J Dowel, or Stone Bells. K K K, Windows. L, Women's Door, built up.

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* Vol. II. p. 277.

God."[*] Mr. Butler is undoubtedly a good authority on these churches, but here is another respectable authority—that is, Sir Gardner Wilkinson, who compiled an early *Handbook* of Egypt for Murray, and this is what he says on this head: "The Copts indeed have always had a *table,* considering that an altar would be a paradox after all sacrifice had ceased with the Saviour's death, and that the table of the Lord's Supper, 'in remembrance' of Him, was to take its place. They say, 'We gave up the altar when we gave up the religion of our pagan ancestors.'"[†] It may be safely guessed that both of these writers have not been quite correctly informed. Both the Eastern and the Western churches consider the altar to be an altar as well as a table, and the Coptic church is not likely to have differed widely on this particular aspect of symbolism.

Mr. Butler mentions "a wooden ark or tabernacle," which "is a regular instrument in the service of the mass, and at other times lies idle upon the altar."[‡] It is a cubical box, about eight or nine inches high, and it has a circular opening on the top, into which the chalice is placed, and the paten is placed over it, but rests on the tabernacle, as well as on the chalice, the rim of the one being the same height as the other. To this the author adds: "There can, I think, be no doubt that this tabernacle or altar-casket of the Copts is the mysterious 'arca' which has puzzled liturgical writers from Renaudot to Cheetham."[§] In this, from what follows, I understand he means the Tabût, or altar, of the Abyssinian churches. Many have blundered on this subject; Neale did, and I fear that even Mr. Butler has been led astray from not having correct accounts of this particular object. As I have had, when in Abyssinia, some of these Tabûts in my hand, and have made drawings of them, there is no difficulty in explaining their real character.

As Neale is an authority on liturgical matters, and as he is the authority which has led so many astray, I had better quote what he writes, because it will give a clearer notion of the whole question:—"I must here speak of that extraordinary appurtenance of the Ethiopic Church, the Tabout, or Ark. It is the belief of that Church that the original Ark is preserved in the Cathedral of Axum, and, in imitation of that, every parish church is also furnished with an Ark, which is preserved in the Sanctuary, and forms the principal object in ecclesiastical processions. The question of its contents is involved in mystery. It is absolutely asserted by Major Harris to contain nothing except a parchment inscribed with the date of the consecration of the building; but the man who boasts of having employed Frank gold to bribe the priests to a discovery of a sacred mystery cannot wonder if he were deceived at last. In the prayer of consecration, which precedes the Ethiopic canon, after the dedication of the paten, the chalice, and the spoon, there follows a prayer to be said over the *Ark* to this effect: 'O Lord our God, who didst command Moses Thy servant and prophet, saying, Make Me precious vessels, and put them in the Tabernacle on Mount Sinai, Now, O Lord God Almighty, stretch forth Thy hand upon this Ark, and fill it with virtue, power, and grace of Thy Holy Ghost, that in it may be consecrated the Body and Blood of Thine only-begotten Son, our Lord,' &c. Renaudot professes his ignorance as to what this Ark is, but suggests that it may be a box for the reservation of the blessed Sacrament; and this at once explains the mystery which attaches to it, the reverence exhibited to it, and the place destined for its reception."[*]

Major Harris was sent to Abyssinia on a diplomatic mission from India in the "forties": he landed at Tadjurrah, and proceeded to Shoa, in the south, the country of the present Emperor Menelik. He had only seen the Tabût carried in processions, when it is entirely covered with richly embroidered pieces of cloth. If one of them had been uncovered to his view he would not have inquired as to what it contained, for it could contain nothing. Neither could it contain what was reserved of the Sacrament; for the simple reason that it is a solid substance. The Tabût is merely a slab of alabaster, marble, or Shittim wood, about the size of a quarto volume; when it is formed of marble it exactly resembles the altar-stone of the Latin church, the difference being that the Tabût has no hole for the relics. It is this preconception that it contained something, which has led to all the confusion regarding its character. The Tabût is in reality the essential part of the altar in an Abyssinian church. The bread and wine are placed upon it during the ceremony of consecration; and if Neale had paid attention to the prayer he quotes, it would have kept him from going so widely astray. I should suppose that it corresponds with the "altar-board" which Mr. Butler describes as being in the altar, and on which the consecration takes place in the Coptic churches. Neale mentions that some of the Syrian churches use a "slab of wood" in the altar instead of relics. I think there is a Tabût among the Abyssinian relics in the British Museum, which may be inspected by any one who is anxious of certainty as to what these articles are really like. A friend of mine has one that was brought home at the time of the Abyssinian Expedition: it is a solid slab of

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[*] Vol. II. p. 2.

[†] *A Handbook for Travellers in Egypt.* By Sir Gardner Wilkinson, D.C.L. 8o. Ed. 1858, p. 289.

[‡] Vol. II. p. 42.

[§] *Ibid.* p. 43.

[*] *A History of the Holy Eastern Church*, by the Rev. John Mason Neale, pp. 185–6.

Shittim wood, with a cross carved on it. On one side is inscribed the name of the person it belonged to, and there are also the words, "10 and 2 Apostles and 4 Beasts." That is the Twelve Apostles and the Four Kerubic forms. The framework, which is formed of four posts and a shelf, which constitutes the altar in the Abyssinian church, is all included under the word "Tabût." The Tabût, or slab, which is the real altar, is not fixed, but merely lies on the *menber*, or shelf, and the reason for not fixing it is because it has to be taken out and carried in grand state in processions. It is the most sacred thing in the church.

WM. SIMPSON.

HOLYWELL PRIORY, SHOREDITCH.

THE LOST WELL.

The discovery in September last year of an old brick-steined well in the footway opposite No. 200 in the High Street* has revived interest in this ancient religious foundation, and given rise to a supposition that it is the actual well to which supernatural healing qualities were ascribed by the devout in the Middle Ages. The priory, which took its name therefrom, once occupied a site amid truly rural surroundings. Whatever outlying land it possessed, its walled precincts at all events were bounded on the east by the main road, or Roman way from the south coast of England to Scotland (the *Ermin Street*), afterwards locally named Holywell Street, or Holywell High Street, and finally Shoreditch; on the west side by a walk originally called "Ditch Side," but now existing as Curtain Road; while the south boundary was a lane called Holywell Lane (*alias* Holloway Lane), a name retained to the present day. The northern wall was probably on the south side of what is now Bateman's Row, but was known 150 years ago as Cash's Alley.

If this be a correct assumption as to the north (and it is the only side as to which there is a doubt), the area inclosed was rather less than eight acres. At all events, it seems clear that within this area the true position of the well must be sought; and as, unfortunately, there are not many records extant, a reference to the information available may be of interest—at least from an antiquarian point of view—in an endeavour to settle the question.

Of the well in High Street, which was found by the workmen of the Telephone Company and Vestry Electrical Supply, Mr. Lovegrove [*A.*] says (page 47, *ante*):—

> It has brick sides, and is evidently of ancient date, the covering being a few feet only below the surface. . . . That the well was used until a comparatively recent date is shown by the fittings found when it was opened.

From what is known of holy-wells in general throughout the country, and what is recorded of this one in particular, a steined, and, I presume, deep, well cannot be the ancient spring which gave its name to the Priory, to the district, and the road; but more likely one sunk for the general and more convenient use of the hamlet after the original spring was rendered unsuitable for either curative or potable use.

The "holy-wells" of the Middle Ages were springs, rising to the surface at the junction of a permeable and impermeable stratum. They issued in many places on the grassy slopes to the north of the ancient city wall, and the whole district about here, especially to the south-west, was so marshy that it was called "*Fensbury.*" The spring in question was evidently one of the most important which were frequented by the early citizens in their rural excursions.

Fitzstephen, writing at the end of the twelfth century, says*:—

> There are also about London, on the North of the suburbs, choice Fountains of Water, sweet, wholesome, and clear, streaming forth among the glistening pebble-stones: in this number, *Holy-well*, Clerken-well, and Saint Clement's-well are of the most note, and frequented above the rest, when scholars, and the youth of the City, take the air abroad in the summer evenings.

This does not give the notion of a deeply sunk brick-steined well adjoining the great road.

Stow, writing 400 years later, in 1598, after enumerating the watercourses, springs, and wells in and around the City, says†:—

> The first, to wit, *Holy-Well*, is much decayed and marred with filthiness purposely laid there, for the heightening of the ground for garden plots.

And incidentally, referring to another "well" close by, he continues:—

> Somewhat north from Holy Well is one other well *curved* square with stone, and is called Dame Annis-the-Clear [afterwards, vulgarly, "Aniseed Clare"].

The position of this is clearly shown by several old maps as lying in a north-westerly direction, approached by a track from the north-west corner of the priory; and the description, that of a shallow tank curbed with stone, was no doubt equally applicable in its palmy days to the one which is the subject of inquiry.‡

In Dodsley's *London and Environs Described*, 1761, fol. 195, there is this reference—a paraphrase of Maitland's text five years previously:—

> Holiwell, a fine spring; now choaked up with soil, and a hill of rubbish called Holiwell Mount near Shoreditch. This spring, in the times of popery, was famed for its miraculous virtues, and thence obtained the name of *Holy*. A little to the south of this well, but within its precinct, stood an Ancient Priory of Benedictine nuns [&c.]

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* *The Builder*, 12th September 1896.

* *Antiq. Rep.* 1807, vol. i. fol. 243.

† Strype, ed. 1720, fol. 50. Morley's ed. 1893, ff. 46, 47.

‡ "Perilous Pond" (recently, if not still, in existence as "Peerless Pool") is also mentioned. Maitland, long afterwards, describes this pool as having been lately formed into the "completest Swimming Bath in the whole world."

With reference to "The Mount," it is to be observed that it is shown on one old map as west of Ditch Side, and therefore *outside* the boundary proper; consequently the "hill of rubbish" was most likely distinct from "The Mount" itself, which was, it is thought, an artificial eminence raised by the Parliament during the civil wars for defensive purposes. Neither of the accumulations could possibly have been choking up a well outside the eastern boundary, 250 yards away by the high road. Besides, the writer calls it "spring," which it is more natural to assume was not a brick-lined well, which, if in existence and use in 1761, would no doubt have been protected from risk of defilement.

Maitland himself in his *History of London* further says that *Seymour* had confounded it with Clement's Well,

> whose remains are still preserved in Clement's Inn. . . . However, its Holiness has of late been opprobriously immured by Heaps of Dung and Soil, and the Water thereof imployed in watering the Garden to which it belongs.

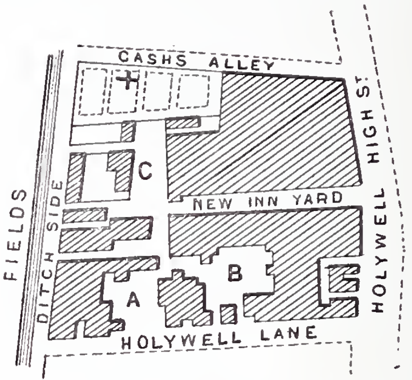
In Ellis's *History of Shoreditch*, 1798, the well is thus described (fol. 183):—

> The name of this priory (as well as that of the liberty in which it is situated) is derived from a certain sweet, wholesome, and clear *fountain*, or well, which for the virtue of its water amongst the common people was esteemed "Holy," though since decayed. This well was *originally* situated on the eastern extremity of Finsbury Fields, as we learn from the charter of confirmation granted to this priory by King Richard the First, bearing date Oct. 7, 1189, wherein he confirms, *inter alia*, "Locum ipsum in quo præfata ecclesia sita est cum omnibus pertinentiis suis, scilicet Moram *in qua fons qui dicitur Haliwelle oritur*." *

From this it would appear that the well was no longer open to view in 1798, and if the original "Ditch" had at this period been replaced by a sewer, under the road which took the place of "Ditch side," the spring was thereby tapped and had disappeared a hundred years ago. During the Main Drainage Works, however, in 1863, a great deal of water was met with in the cuttings, and the gravel was then doubtless permanently drained.

Mr. Hope, in his work *Holy Wells of England*, 1893, gives no further information, merely quoting the statement as to the spreading of rubbish to heighten the gardens. But he describes wells in other parts of the country at some length. The book corroborates the statement that scarcely any of these "Holy" wells were of any considerable depth, or otherwise bounded than by a low wall at the back, and perhaps also on two sides, with several steps down to the water on the front.† Sometimes they were covered in with a vaulted roof, and occasionally provided with a stone bench, altar, or shrine, and image of a saint, and ornamented outside with the arms of the donor. Dripping wells were occasionally so designated.

Turning now to the maps available, although there are several well-known older maps, I have not found the well shown on any survey until that made in 1745 by Chasserau of the Parish of St. Leonard; but this map seems to settle the question definitely.



A, King John's Court. B, Holywell Court. C, New Inn Broadway (formerly King John's Court).

The buildings and open spaces within the area bounded by Cash's Alley (Bateman's Row), Holywell Lane, Ditch Side, and Holywell High Street as they then existed are shown on sketch; where, at the north-west angle, is a plot of garden ground, containing three roods, in the centre of which is indicated, by a cross, "*Ye well from which ye Liberty derives its name.*"

Any traces of it which were then apparent to the surveyor probably disappeared in the fifty years which intervened before 1798, when Ellis wrote of the "original" situation of the well. At the present day the whole area is crowded with warehouses, small shops, poor dwellings, timber and other yards, and intersected midway by the North London Railway. Even 150 years ago it would seem that the residences of nobility and gentry which are said to have succeeded the Priory buildings had, in their turn, given place to a very inferior class of dwelling.

Bateman's garden plot is now occupied by a Board school and small and dirty houses, and crossed by New Inn Street and a court called New Inn Square—both streets formed since 1745.

The playground of the school abuts upon Bateman's Row; and it is between the east boundary wall thereof and the backs of the houses in New Inn Street, some 30 or 40 feet south of Bateman's Row, and 130 feet east of Curtain Road, that the exact position, according to this map, of the spring at which so many devotees believed themselves cured may be fixed. The Ordnance Survey places it a little further to the east under the houses, and *The Builder* rather more to the north-west. Therefore, in any case, the recent find opposite No. 200, High Street is deprived of all claim to remote antiquity or romantic interest.

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* *Mon. Ang.* vol. i. p. 531.

† Of this kind was the "Shepherds' Well," which was in use for cattle some 35 years ago, in the "Conduit Fields," Hampstead. It was a spring on the south-west slope of the sandy cap on the Northern Height, which accounts for the Heath, and issued at the level whereat the clay subsoil commences. The rectangular basin had a brick wall on three sides, stone curb, and iron railings. Three or four steps led down to the water, which was shallow, partly filled with rubbish, and not at all inviting. The spring failed almost entirely after sewerage works were executed, and the site, now built over, is indicated by a tablet upon the boundary wall of the nearest house.

EDWD. WM. HUDSON.

NOTES, QUERIES, AND REPLIES.

Architects and Reinstatement of Buildings after Fire [p. 174.]

From THOMAS E. MUNDY [*A.*]—

In the JOURNAL dated 4th February 1897 I have read the report made to the Council by the Practice Standing Committee, and, whilst wishing to give all due credit to the members of that Committee for their well-meant energy, I cannot but express the opinion that the action taken by them was very ill-judged, and I consequently feel obliged to congratulate the members of the Institute on the non-success of the negotiations with the fire offices.

There are several members of the Institute closely connected with the insurance offices in respect to the settlement of building losses, and if the Committee had consulted those members before taking action in the matter, I venture to think they would have adopted a very different position.

Hitherto, although the fire offices have declined to accept responsibilty for the payment of architects' fees after fire, the assessors have been left with a tolerably free hand to recommend them for payment—*e.g.*, in special cases, where there was a *bonâ fide* reason for so doing—but, as a result of the recent action, a general instruction has been given not to allow them without the special consent of the offices interested.

I would now draw attention to the fact that a very small proportion of the claims made against fire offices passes through the hands of architects, the very large majority coming through auctioneers, house agents, claim makers, builders, undertakers, house furnishers and decorators, drapers, upholsterers, &c.; and it should be borne in mind that the fire offices have no control in the matter, the owner of the property having a perfectly free hand to select (if he thinks it necessary to do so) the person to make his claim, and superintend the reinstatement of his property. If, therefore, the fire offices had accepted the proposal of the Practice Standing Committee, it would necessarily follow that the promiscuous persons engaged in the above-named and other callings would find it to be to their advantage to advocate the claims under the designation of "architect." Inasmuch, however, as architects have no clearly defined legal status, the fire offices, having once accepted responsibility for architects' fees, would have no legal power of discrimination, but would be bound to allow the fees as a specific item on every claim made by a person calling himself an "architect."

Now, to go a step further. In the settlement of a fire loss there often exists a variety of interests, and in some cases the several persons interested employ their own agents. If, therefore, the fire offices recognise liability for the fees of the architect or agent employed by one of the persons interested, why not those of the architects or agents representing the owners of the other interests, thus making further, and surely unfair, additions to the claim, and opening the door to unnecessary complications?

Permit me to go a step further still. There are many property owners who decline to settle a claim against a fire office without the intervention of their solicitors, who sometimes ask for the payment of their fees; consequently, if architects' fees are allowed, why not solicitors also, with the same chance of multiplication in the case of varied interests as I have above suggested?

The present position taken up by the fire offices is a perfectly sound and equitable one—viz., responsibility for the value of the damage to the building by fire—not that of indemnity against losses of any and every kind caused directly or indirectly by the fire; and in cases where, by reason of the character of the building, the owner anticipates the necessity of employing an architect to superintend the reinstatement in case of fire, he can easily cover that risk by insurance in the same way as he can that for the loss of rent—viz., by an agreed upon amount specified for the purpose.

As regards the letter from the manager of the Imperial Assurance Company, laying down two principles (numbered 1 and 2 in report) as governing their action, it appears to me to be only a method of obtaining a cheap advertisement, and can mean nothing unless it be governed by the principles I have pointed out. I therefore anticipate the office mentioned will soon find out its mistake, and be glad to fall into line with the other offices.

Referring to the last clause of the report, I confess myself utterly at a loss to understand how the addition to a policy of a specific item covering architects' fees should tend to "undermine or weaken the rights of the insured as laid down in clause No. 2," as, on the contrary, it would place those rights beyond dispute, and the additional premium paid would exactly correspond with the advantage to be gained by the assured.

I make these remarks solely as a member of the Institute in the interest of our profession, and not with the authority or on behalf of any fire office; but I have reason to believe that many members of the Institute share my views, and I venture to think that the Practice Standing Committee will commit a grave error if it makes any further attempt to disturb the present practice, which appears to me to be eminently fair and equitable.

M. Charles Yriarte and the South Kensington Museum.

From John Hebb [*F.*]—

M. Charles Yriarte, Inspector-General of Fine Arts to the French Government, has addressed a letter to the Paris correspondent of *The Times*, a translation of which appears in *The Times* of the 1st of March, advocating the completion of the South Kensington Museum with a view to the accommodation of the Wallace Bequest to the nation, which will interest British architects. M. Yriarte, whose ability as an archæologist and critic is well known in this country, while deprecating the intention of advising as to the architectural question involved, proceeds to deliver himself of the following exordium, which may perhaps be intelligible in the original, but appears to have suffered at the hands of the translator:—

"It is not for me," says M. Yriarte, "to give an opinion on the architectural work to be accomplished. South Kensington is especially a museum of study, and for study a mere box is sufficient, spacious, well lighted, with as few projections as possible, of no exaggerated height, easy of access, and above all with space and light; and lastly, from due respect for art, with decent surroundings, a fine entrance, and no unsafe neighbouring buildings. The architects will be unable to protest (why should they?). They know that in architecture the external expression of a requirement fulfilled, a form appropriate to the object aimed at (*e.g.*, half a brick?) inevitably gives a monument its character. Ornament is neither in the material employed nor on the wall, where it sometimes distracts attention; it is especially in the art object itself, and imagination can find ample scope outside."

The translator's qualification for his task may be tested by the fact that he translates what is evidently intended for "the reproduction one-third full size of the bedchamber of Isabella d'Este, Duchess of Mantua," as "the model one-third size of the execution of the Camerino of Isabelle d'Este Marchioness of Mantua"!

MINUTES. IX.

At a Special General Meeting, held Monday, 1st March 1897, at 8 p.m., Professor Aitchison, A.R.A., *President*, in the Chair, the President moved that, subject to Her Majesty's gracious sanction, the Royal Gold Medal for the promotion of architecture be presented to Mynheer P. J. H. Cuypers, for his executed works as an architect. The motion having been seconded by Mr. William Emerson, *Hon. Secretary*, it was

> Resolved that, subject to Her Majesty's gracious sanction, the Royal Gold Medal for the promotion of architecture be presented this year to Mynheer P. J. H. Cuypers [*Hon. Corr. M.*], Amsterdam, for his executed works as an architect.

The Meeting then terminated.

At the Ninth General Meeting (Business) of the Session held Monday, 1st March 1897, at the close of the Special General Meeting above referred to, Professor Aitchison, A.R.A., *President*, in the Chair, the Minutes of the Meeting held 15th February 1897 [p. 212] were taken as read and signed as correct.

The following Associate attending for the first time since his election was formally admitted, and signed the Register—namely, Frederick Chatterton.

A list of donations to the Library [see *Supplement*] was taken as read, and an expression of the thanks of the Institute to the several donors was ordered to be entered on the Minutes.

The following candidates for membership were elected by show of hands, under By-law 9, namely:—

As Fellows.

HENRY CLEMENT CHARLEWOOD [*A.*], (*Qualified as Associate* 1888), Newcastle-on-Tyne.

JOSEPH GIBBONS SANKEY, M.A.Cantab. [*Pugin Student* 1884], Manchester.

JAMES DIGGLE MOULD [*A.*], (*Qualified as Associate* 1888), Manchester.

As Associates.

HERBERT WILLIAM BIRD (*Probationer* 1891, *Qualified* 1896), Hong Kong.

CHARLES FREDERICK INNOCENT (*Probationer* 1889, *Student* 1894, *Qualified* 1896), Sheffield.

ALFRED EDWARD CORBETT (*Probationer* 1891, *Student* 1892, *Qualified* 1896).

STEPHEN POWLSON REES (*Qualified* 1896).

CHARLES HENRY DORMAN (*Probationer* 1890, *Student* 1893, *Qualified* 1896).

ALEXANDER GODOLPHIN BOND, B.A.Oxon. (*Probationer* 1894, *Student* 1895, *Qualified* 1896).

GILBERT WILSON FRASER (*Probationer* 1890, *Student* 1892, *Qualified* 1896).

DELME GEORGE MOOTHAM (*Probationer* 1892, *Student* 1893, *Qualified* 1896).

CLEMENT OSMUND NELSON (*Probationer* 1891, *Student* 1894, *Qualified* 1896).

RUPERT CLAUDE AUSTIN (*Probationer* 1892, *Student* 1895, *Qualified* 1896).

HENRY GEORGE FISHER (*Qualified* 1896).

CHARLES SAMUEL FREDERICK PALMER (*Qualified* 1896), *Arthur Cates Prizeman.*

On the motion of Mr. Owen Fleming [*A.*], seconded by Mr. Francis Hooper [*A.*], it was

> Resolved that it be referred to the Science Standing Committee to consider the desirability of formulating a definite standard size for bricks.

Mr. William Woodward [*A.*] drew attention to alleged refusals on the part of some builders to sign the Institute Conditions of Contract, and urged that the new Form of Contract be withdrawn, and the old one reverted to.

A Paper by Mr. Leopold Eidlitz (of New York), entitled The Educational Training of Architects, having been read by Mr. John Slater [*F.*], B.A., the same was discussed, and a vote of thanks unanimously passed to the author.

The proceedings then terminated, and the Meeting separated at 9.45 p.m.

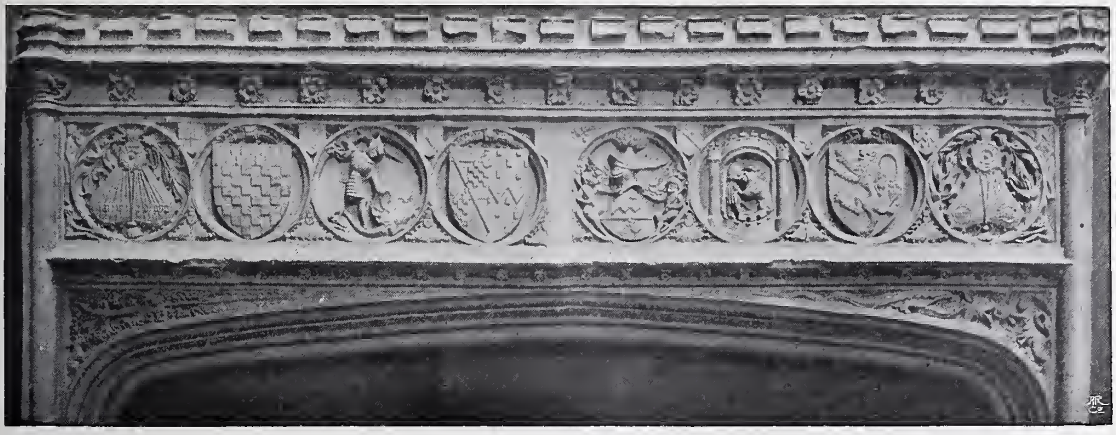

FIG. 1.—Fireplace in Tattershall Castle, Lincolnshire, built by Ralph, Lord Cromwell, between 1433 and 1455, with arms of Tattershall, Cromwell impaling Deincourt, Fitzalan, &c. and the Treasurer's purse and motto.

HERALDRY IN ENGLISH MEDIÆVAL ARCHITECTURE.

By W. H. St. John Hope, M.A.

Read at the General Meeting of the Royal Institute of British Architects, 15th March 1897.

IN addressing you this evening on the conjunction of Heraldry with English Gothic architecture, I propose to confine my remarks to the historical period beginning with the accession of Henry III. in 1216, and ending with the death of Henry VIII. in 1547. The heraldry associated with the architecture of the Renaissance and later periods may be safely left to be dealt with at your next meeting, by the competent hands of Mr. J. A. Gotch.

Whatever in the nature of heraldry existed before the thirteenth century does not now concern us, inasmuch as it has no connection with architecture. The evidence of seals does, indeed, show that true heraldry, as we understand it, had already been invented before 1150 ; * and some people have imagined that certain devices and strange beasts which are found in late Norman sculpture have an heraldic significance, but, so far as I am aware, no corroborative evidence on this point is forthcoming. On the other hand, there is every reason for beginning with the reign of Henry III., for it was then that heraldry first became associated with architecture, and this association is practically contemporary with the reduction of heraldry to those scientific elements which have descended to us almost without alteration or modification.

The applications of heraldry to architecture, in the period to which I shall restrict myself, are so numerous that it is not easy to deal with them in any degree of connection. Arms, badges, crests, and supporters are freely used in every conceivable way and on every reasonable place, on gateways and on towers, in windows and on wall, in the spandrels of arcades, on vaults and roofs, on plinths, on buttresses and pinnacles, in cornices and parapets, on porches and on doorways, on wood work, metal work, and furniture of all kinds, on tombs, fonts, pulpits, and screens, in painting and in glass, and on the tiles of the floor. Whether the building be ecclesiastical, domestic, or secular is immaterial : there is no difference in the treatment of the heraldry nor limitation of its use. The men who erected great churches like York or Lincoln likewise built such castles and houses as Alnwick, Haddon, and Penshurst, and even barns like those at Glastonbury and Pilton; and as they used but one style of building, so they had at the same time but one treatment of heraldry.

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* See a valuable paper by Mr. J. H. Round in the *Archæological Journal*, li. 46.

The earliest applications of armorial insignia were purely of a personal character, to distinguish a man from his fellows when all were alike disguised in their war harness. These insignia usually took the form of a device painted upon the wearer's shield or attached to his headpiece, the object of both being that he might easily be recognised. It is, therefore, only natural that heraldry should be met with first in buildings in the form of painted or sculptured shields on the monumental effigies of departed warriors. An early and at the same time splendid example may be seen at Salisbury in the effigy of William Longespée, Earl of Salisbury, who died in 1227. Other effigies of later date with sculptured shields are those of Robert de Vere, *c*. 1275, at Hatfield Broadoak, a beautifully diapered example, and of Robert de Ros (*ob*. 1285) in the Temple Church.

The value of armorial shields as a mode of picture-writing soon suggested itself when heraldry became a science, and the association of them with architecture formed at once a beautiful form of decoration and a speaking historical record. The wall arcades of the nave aisles in the abbey church of Westminster furnish us with the earliest and most charming examples of this combination. They form two distinct groups. The first consists of sixteen large shields, disposed in pairs in the spandrels of the four bays west of the transept on each side, and all finely carved and painted. Each shield was originally represented as suspended by its straps from two heads of varied design, one on either side of the shield [fig. 2]. Mr. Micklethwaite has shown * that this part of the church, as forming the quire, was built before 1269, and this is fully borne out by the heraldry, which represents the arms of Edward the Confessor, the Kings of England, Scotland, and France, the Emperor of Germany, and the Earls of Provence, Winchester, Lincoln, Cornwall, Rothsay, Gloucester, Norfolk, Leicester, Surrey, Hereford, and Albemarle. All of these, except of course St. Edward, were no doubt benefactors to this part of the building. The shields of the second group, which were originally twenty-four in number, were disposed in the spandrels of the remaining bays down to the west end of the nave, but as they were painted only, and not sculptured, they have been less cared for, and most of them have been repainted or otherwise destroyed. They were, however, very little later than the carved examples, and formed, historically, a continuation of the series.

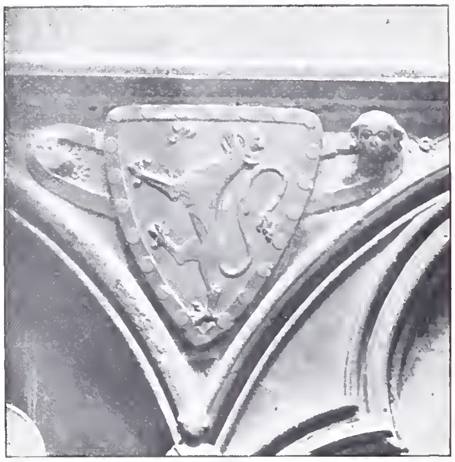

FIG. 2.—Shield of Richard, Earl of Cornwall and King of the Romans (*ob*. 1272). From the nave of Westminster Abbey Church.

The same magnificent church also furnishes us with two early examples of tombs decorated with heraldry, in that of Queen Eleanor, the consort of Edward I., which was set up by Master Richard of Crondal in 1291, and that of William de Valence, Earl of Pembroke, who died in 1296. The effigies on these tombs also display armorial decoration. The beautiful gilt latten figure of the queen, cast by Master William Torel in 1291, lies upon a plate or bed of the same metal, which is engraved throughout with a lozengy diaper of castles and lions, borrowed from the queen's quarterly shield of Castile and Leon. The neighbouring effigy of Henry III., cast at the same time as Eleanor's by the same famous English goldsmith, has the foot-gear engraved all over with little lions of England. The effigy surmounting William de Valence's tomb, like the chest that carries it, is of wood covered with gilt bronze plates, and still retains its splendid diapered shield of Limoges enamel, as well as some of the lesser shields with which it was decorated. The armorial ornaments of the chest

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* *Archæological Journal*, li. 20, 21.

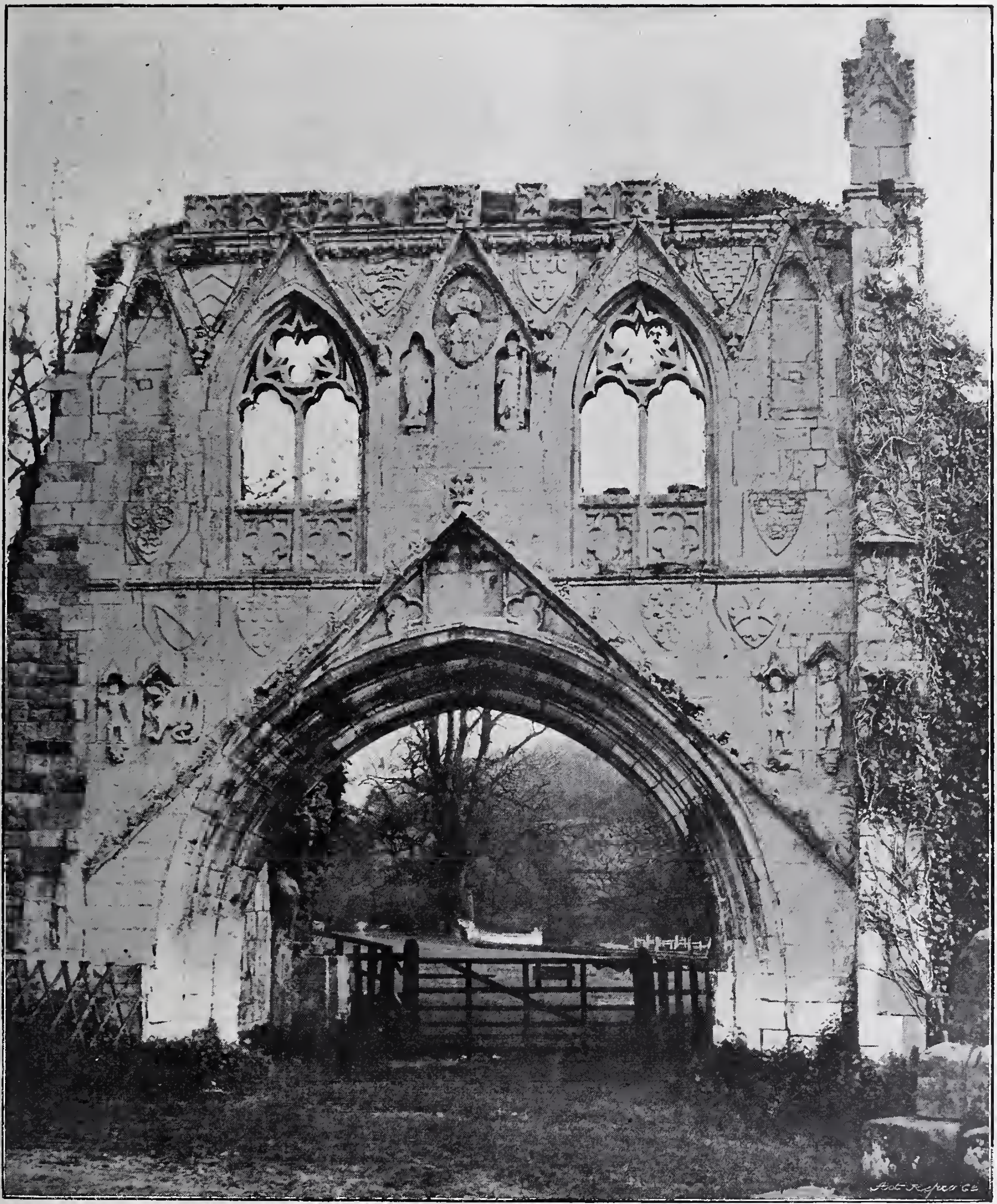

FIG. 3.—Gatehouse of Kirkham Priory, Yorkshire. With arms of Clare, England, Ros, and Warrenne, Lespec, Greystock, &c. Built between 1289 and 1296. (From a photograph by Valentine & Sons, Dundee.)

on which the effigy lies have now disappeared, but a part of the bed-plate, with a diaper of enamelled lozenges of England and De Valence, has escaped, as have also some minor details. The whole of the metal work of this monument is obviously French, but the stone tomb below is certainly English.

Besides the heraldry on Queen Eleanor's tomb, I may mention that decorating the three crosses at Geddington, Waltham, and near Northampton respectively, which are all that survive of the twelve set up to the Queen's memory in 1291 and following years by her sorrow-stricken consort.

Another admirable example of the thirteenth century of heraldry conjoined with architecture is the gatehouse of Kirkham Priory, Yorkshire [fig. 3]. This beautiful composition has two rows of four shields each, one just below the cornice and parapet, the other suspended, as it were, beneath the stringcourse dividing the two storeys. Though at first these eight shields appear to be without order, they actually form pairs, and bear the arms of four benefactors to the Priory and those of their wives. From these the date of the work can be shown to fall between 1289 and 1296. Two other single shields bear the arms of Walter Lespec, the founder, and of John of Greystock, a benefactor who died unmarried in 1306.

At the same time that the Kirkham gatehouse was in building, the new nave of York Minster was begun, a work that went on for about a quarter of a century. Various benefactors to the church are here commemorated, after the Westminster fashion, by their shields of arms, thirty-two in all, which are sculptured, two to a bay, in the spandrels of the pier arches. They were no doubt originally painted, or intended to be.

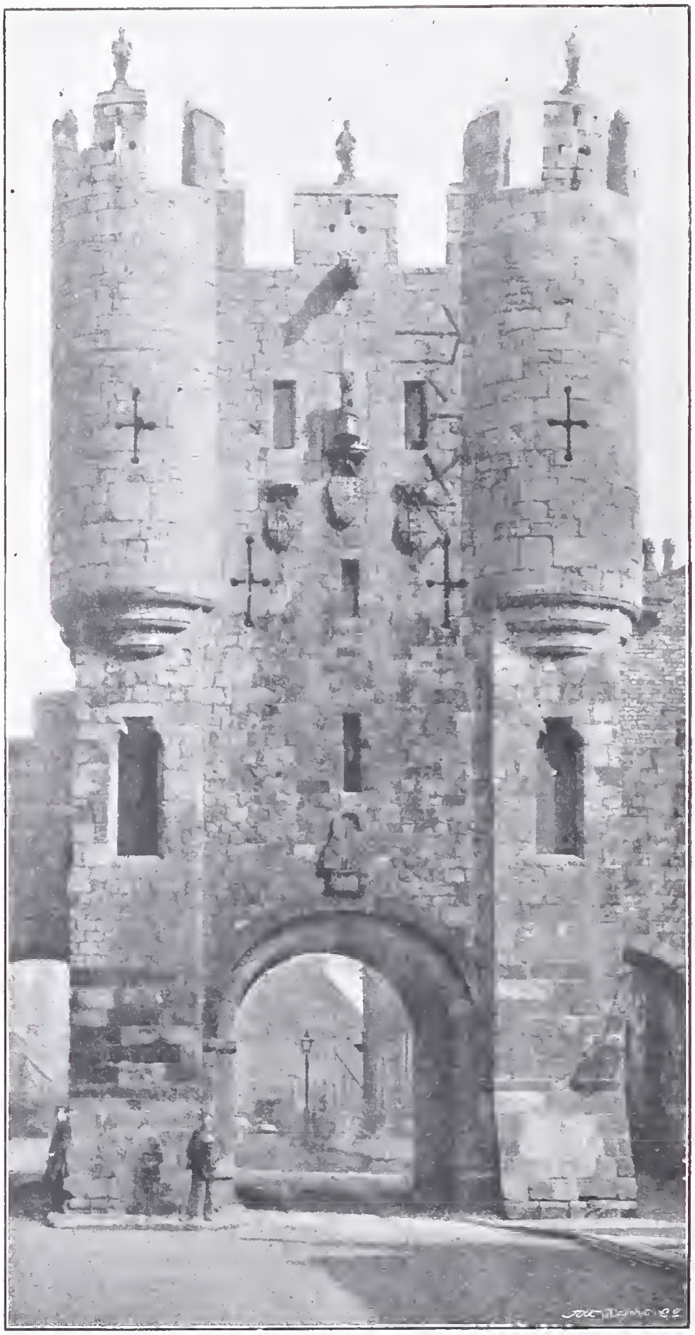

FIG. 4.—Micklegate Bar, York. With arms of King Edward III., the City of York, &c.
(From a photograph by Valentine & Sons, Dundee.)

An arrangement somewhat similar to that at York occurs at St. Albans in the beautiful Decorated bays of the nave of the abbey church, built after the partial fall of the south side in 1323. The shields are only six in number, but they are perhaps the finest examples of their kind both in design and workmanship.

In the north of England there are a number of buildings of the fourteenth century which combine heraldic decoration with the architecture. The lofty gatehouse of Bothal Castle, for instance, built about 1350, has a double row of shields above the doorway. A somewhat similar treatment, of about the same date, may be seen at Alnwick Castle, where the entrance to the keep and its two octagonal flanking towers have a row of carved shields just below the parapet. At Hilton Castle, co. Durham, an entrance not unlike that of Alnwick has over the door a number of shields and a large banner of the royal arms, with other shields on the flanking turrets. At Lumley Castle the heraldry externally takes the form of a number of crested helms with pendent shields; internally there are two vertical rows of shields with Lumley alliances. Both these examples are *circa* 1390. The Lion tower at Warkworth (*circa* 1400) and Micklegate Bar, York [fig. 4], are further instances of armorial insignia carved over doorways.

The presbytery and quire of York Minster, which were in building respectively from 1361 to 1370 and 1380 to 1400, have in the spandrels of the pier arches a series of sculptured shields similar to those in the nave, which obviously suggested them. The great arches of the central lantern tower, built in continuation of the works of the quire, are also adorned with large and fine examples of the sculptured shields of arms of the builders and others.

One of the most splendid buildings of the fourteenth century, the Royal Chapel of St. Stephen at Westminster, built by Edward III., has unfortunately been destroyed. From the many coloured and other drawings of it that have been published by the Society of Antiquaries and others, it must have been gorgeous with heraldic decoration in both painting and carving, and we can but deplore the loss of so priceless a monument of English art.

Taken as a whole, the fourteenth century, except perhaps in Yorkshire, was not very prolific in buildings decorated with heraldry; but it produced a magnificent series of monuments, many of so elaborate a character as to form distinct features of the churches wherein they stand.

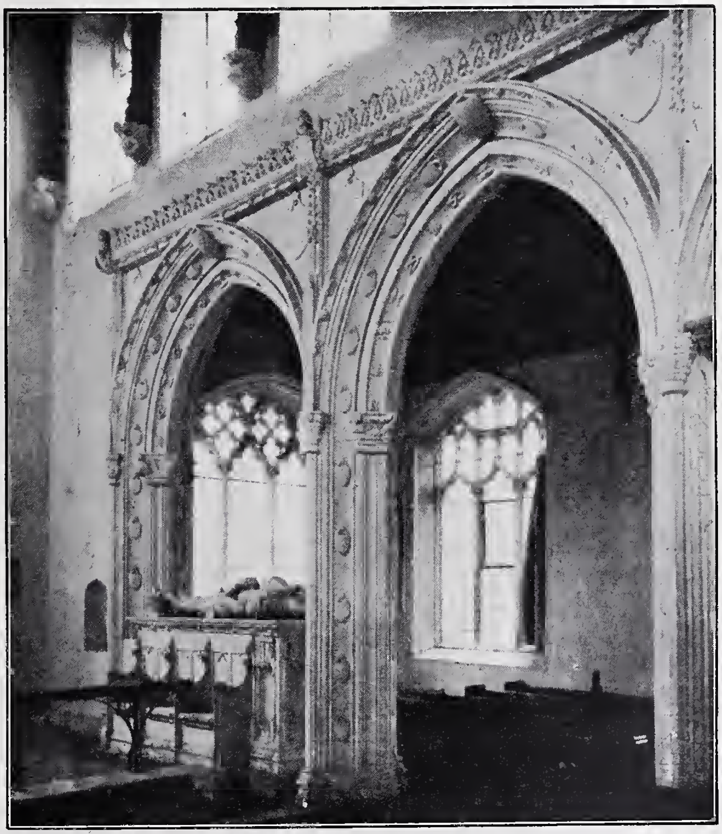

Fig. 5.—Piers and Arches in Wingfield Church, Suffolk. With heraldic decoration commemorative of Michael de la Pole, Earl of Suffolk (*ob.* 1415), and his wife Catherine Stafford.

(From a photograph by the Rev. Walter Marshall.)

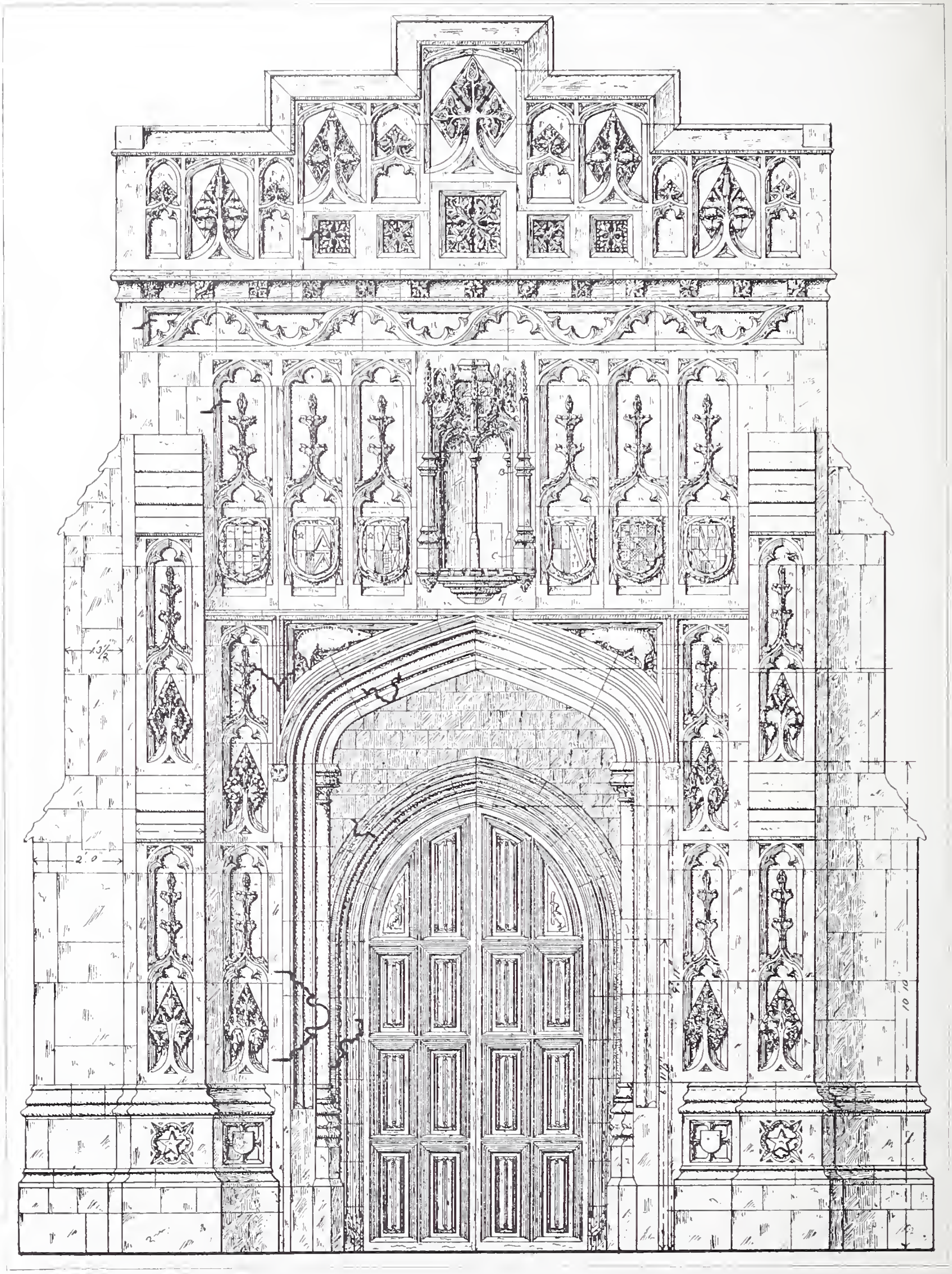

Fig. 6.—South Porch of Lavenham Church, Suffolk. With arms of the 8th, 9th, 10th, 11th, 12th, and 13th Earls of Oxford. Built probably at the cost of John de Vere, the 13th Earl, between 1486 and 1508. In the spandrels are the De Vere boars, and on the plinth is the mullet from the De Vere arms. (Reproduced from an original drawing by W. Gillbee Scott [*F.*].)

Thus, at Westminster, on the north side of the presbytery, are the three tombs of Aveline, Countess of Lancaster, Edmund Crouchback, and Aymer de Valence, all set up about 1325, and once resplendent with heraldry in painting and gesso. The Botetourt tomb at Belchamp Walter, Essex, of about the same date, is a good example of the canopied tomb with heraldic spandrels, and there are other such at Howden and in Holy Trinity Church, Hull; but the finest of this type is the splendid monument, *circa* 1340, of Lady Eleanor Percy in Beverley Minster, with richly diapered shields. The tomb of Lady Montacute at Oxford (1355); the two Burghersh monuments at Lincoln (*circa* 1372); those of Queen Philippa (1369) and Edward III. (1377), at Westminster, and of their son Edward, Prince of Wales (1376), at Canterbury; and that of John, Lord Neville (1377) and Maud Percy his wife, at Durham, though rich in beautiful heraldry, are uncanopied, as is the fragment of the tomb at King's Langley of Isabella, Duchess of York (1393). The Bourchier tomb at Halstead (after 1349), and those of Bartholomew, Lord Burghersh, at Lincoln (1356), of Bishop Hatfield at Durham (1381), and Guy, Lord Bryen, at Tewkesbury (1390), are good examples of canopied heraldic tombs of the second half of the century.

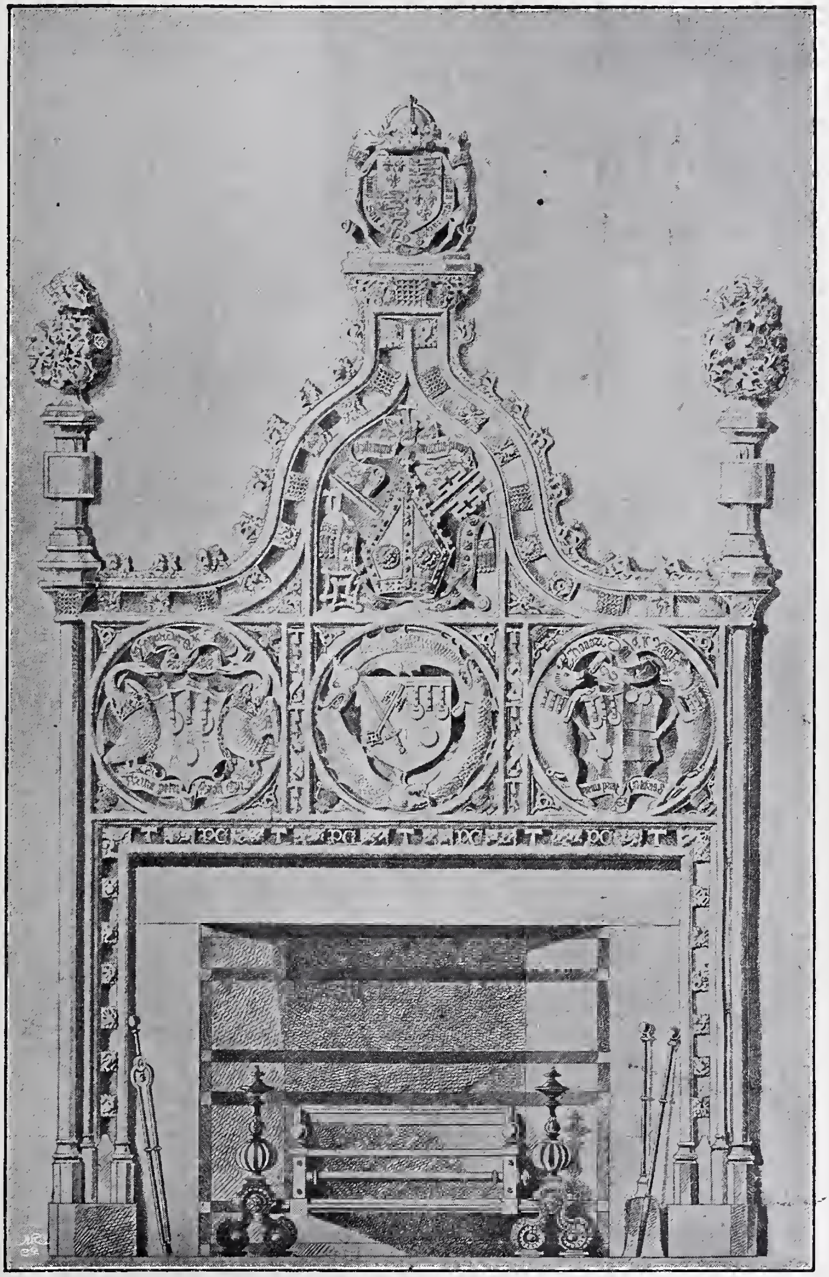

FIG. 7.—Fireplace in the Bishop's Palace at Exeter, with the arms and badges of Peter Courtenay, Bishop of Exeter, 1478 to 1487. At the top are the royal arms of Henry VII.

(Reduced from a drawing by Mr. Roscoe Gibbs in *The Courtenay Mantlepiece.*)

The so-called Perpendicular style, which produced such a number of grand churches and houses during the fifteenth and sixteenth centuries, was very prolific in heraldic ornament and decoration. This is especially seen in East Anglia, where almost every large church of the period is lavishly decorated with heraldry, notably on the parapets, plinths, and buttresses, as, for example, at Wymondham, Blakeney, Swaffham, and Long Melford. Sometimes rich bands full of carved shields or badges are found, like that over the west doorway at Sall, and the gatehouse of the bishop's palace at Norwich, or the arcades are ornamented with heraldry, as at Wingfield [fig. 5]. The richest work, however, is often reserved for the principal porch, as at Cley, Walpole St. Peter, Aylsham, Lavenham [fig. 6], &c. The splendid wooden roofs and ceilings are also frequently enriched with angels holding shields, as at Blythburgh and elsewhere, or with painted decorations of a more or less armorial character, as at East Dereham. One of the finest of the latter class is at Norwich, over what was once the quire of St. Giles's Hospital, and has large square panels of a golden yellow colour each filled with a black eagle. The hospital still survives, but the quire has been divided by a floor, and the royal birds of Queen Anne of Bohemia now look down upon the old ladies who live in the "Eagle Ward."

Heraldic ornament is, of course, by no means confined to the Perpendicular work of East Anglia, but may be found in buildings of the same style in other parts of the country, *e.g.* the Beauchamp Chapel at Warwick, Winfield Manor House, the Cantilupe chantry house at Lincoln, the George Inn at Glastonbury, and the unfinished west front of Bolton Priory (Yorks).

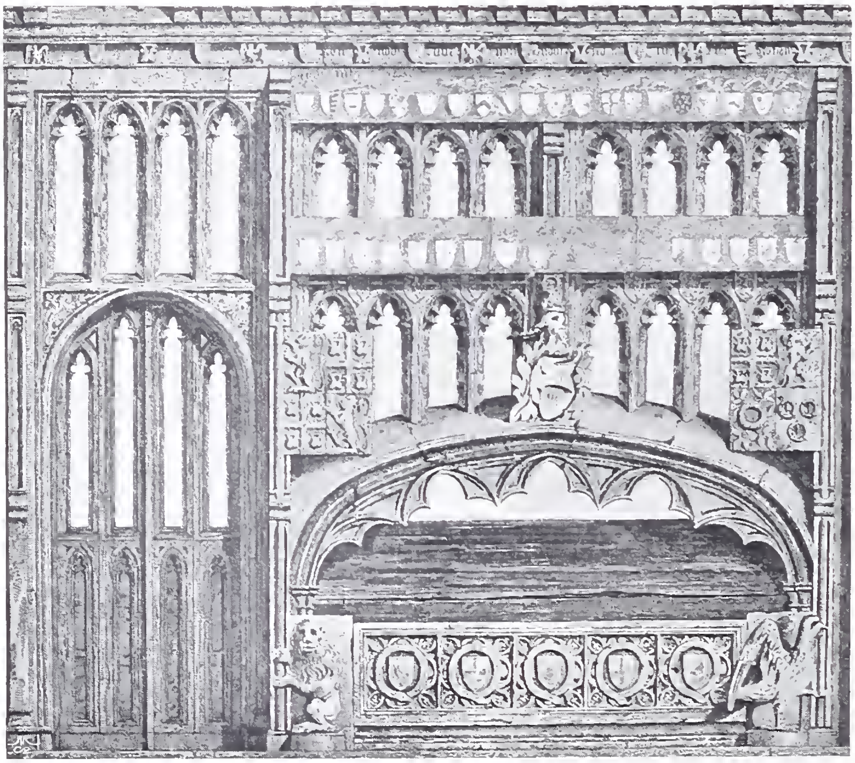

FIG. 8.—Tomb of Lewis Robsart, Lord Bourchier, K.G., *ob.* 1431, and Elizabeth his wife, in Westminster Abbey Church. With badges and painted shields, banners of arms, &c.

(Reduced from Neale and Brayley's *History and Antiquities of the Abbey Church of St. Peter, Westminster.*)

Many of the ornate fireplaces of the fifteenth century furnish fine displays of heraldry. Some of the best, because of their variety of design and ornament, are those in the grand brick castle of Tattershall, in Lincolnshire, built by Ralph, Lord Cromwell, between 1433 and 1455. They are four in number, and are ornamented with rows of shields of arms, alternating with the purse or badge of office of Lord Cromwell as Treasurer of the Exchequer [see fig. 1].

A later and even more elaborately ornate fireplace is that in the bishop's palace at Exeter [fig. 7]. It is of different design from the Tattershall examples, and literally covered all over with the armorial ensigns and badges of Bishop Peter Courtenay, who held the see from 1478 to 1487.

The fifteenth century, like the fourteenth, was rich in heraldic monuments. That of Henry IV. and his queen at Canterbury is an excellent instance of a high tomb, and still retains its tester, which is richly painted with badges, collars of SS, and shields of arms. Another fine tomb, of curious design architecturally, is that of Lewis Robsart, Lord Bourchier (*ob.* 1431), at Westminster [fig. 8], with large quartered banners of arms at the ends, the poles of which are ingeniously worked into the buttresses and held by lions or falcons. Another grand example, for the making of which the contracts have been preserved, is the marble tomb, with latten weepers, effigy and herse, and enamelled escutcheons, set up at Warwick, in 1452, to the memory of Richard Beauchamp, Earl of Warwick.

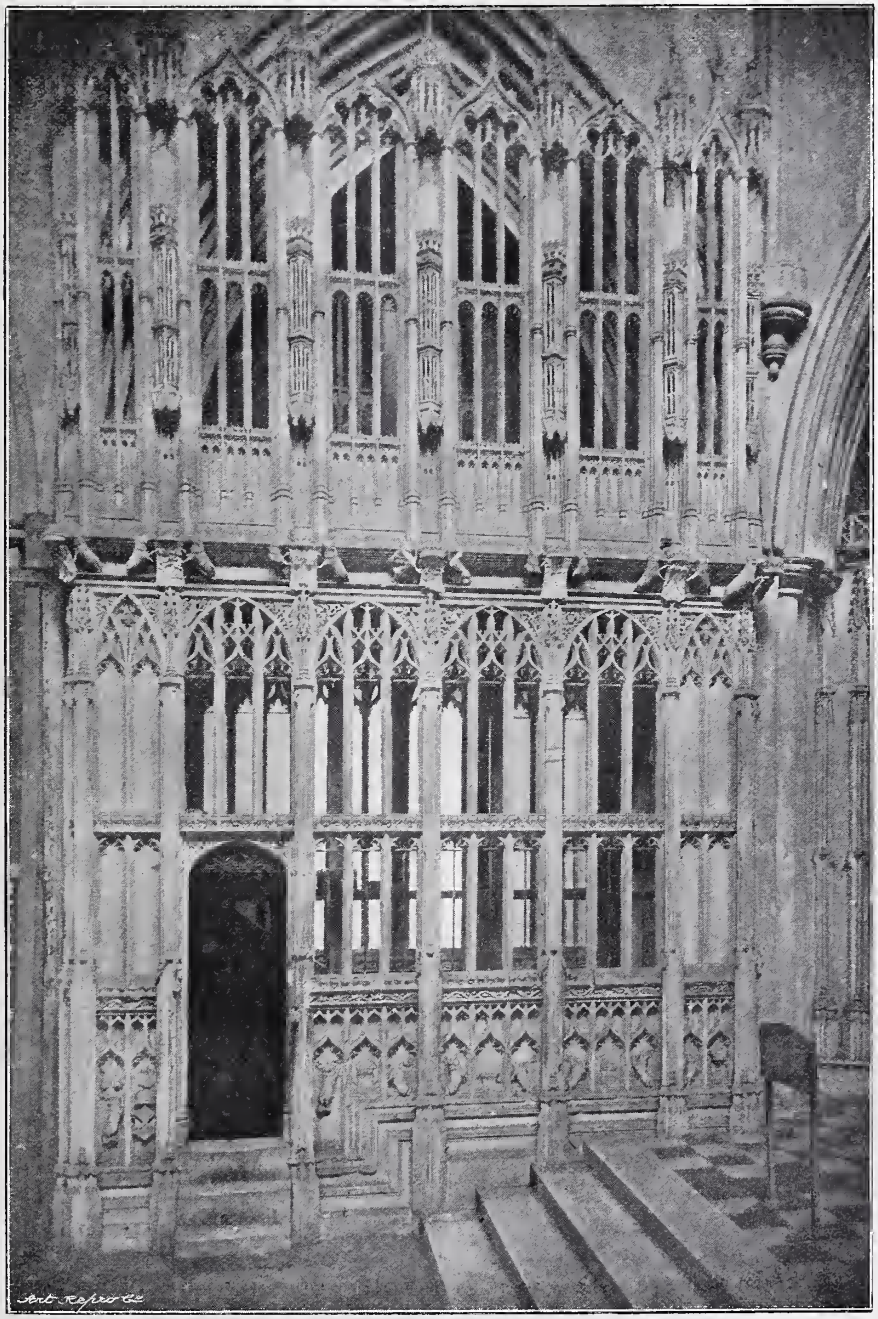

FIG. 9.—Chantry Chapel of Thomas Ramryge, abbot 1492 to *c.* 1520, in the presbytery of St. Albans Abbey. The various shields (except those of the Royal Arms) are supported by figures of *rams* with collars charged with the letters **ryge**.

During the fifteenth century there came into fashion those beautiful stone structures that combine the monument with the chantry chapel, of which we have examples at Tewkesbury, St. Albans, Salisbury, Winchester and elsewhere. One of the finest in design, as it is most remarkable in construction, is the bridge-like structure in Westminster Abbey church, in memory of Henry V., whose tomb stands beneath it. The heraldry on it is good of its kind, but is chiefly restricted to the spandrels and to the bands above and beneath the sculptured sides. The chapels of Humphrey, Duke of Gloucester (*ob.* 1446), and Abbot Thomas Ramryge at St. Albans [fig. 9] abound with beautiful heraldic ornament, as does the chapel of Bishop Richard Fox at Winchester.

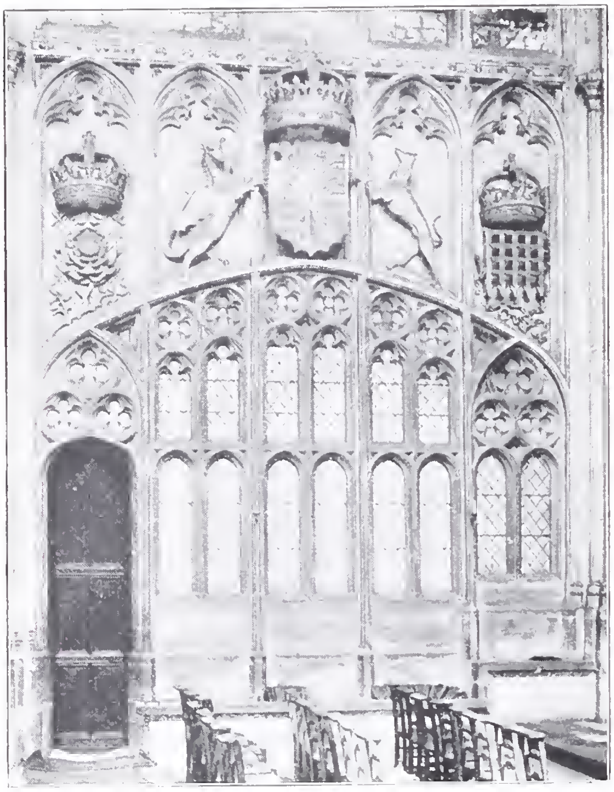

Fig. 10.—Compartment of the Ante-chapel of King's College Chapel, Cambridge, with Arms and Badges of Henry VII. Date, *circa* 1510.

(From a photograph by the Rev. Walter Marshall.)

Much of the architectural heraldry of the first part of the sixteenth century is simply a continuation of that which preceded it. In large and costly buildings, however, the increased richness of the architecture was accompanied by a corresponding outburst of heraldic display, as in Henry VII.'s Chapel at Westminster, King's College Chapel, Cambridge [fig. 10], St. George's Chapel, Windsor, and Hampton Court. Other rich works of the period are the Greenway Chapel at Tiverton (1517) and the gateway to the Deanery at Peterborough [fig. 11].

Amongst the most beautiful heraldic works of this time are the bronze doors of Henry VII.'s Chapel [fig. 12]. The framework of these is ornamented at the intersections with large Tudor roses, in themselves beautiful enough; but the effect is greatly enhanced by the treatment of the interspaces, which are of pierced work representing various royal badges and devices, such as the falcon and fetterlock of the House of York, the Beaufort portcullis, Tudor roses, the royal cipher, &c. The magnificent bronze grate enclosing the King's tomb, which, like the doors, is of undoubted English work, is profusely adorned with heraldry, especially in the upper parts. I would particularly call attention to the skilful treatment of the Royal Arms over the doors, and the great branching candleholders with basons in form of crowned roses [fig. 13].

Besides these characteristic features of architectural heraldry of the fourteenth, fifteenth, and sixteenth centuries, to which I have endeavoured as briefly as possible to call attention, there are many others that must be passed over for want of time and space. I should, however, like to select a typical architectural feature, and to show what influence the introduction of heraldry has had upon its ultimate development in one direction.

Some of you are perhaps acquainted with the grand gatehouse of Thornton Abbey, in Lincolnshire, the date of which lies between 1382 and 1388. The outer archway of this has carved spandrels, each containing by way of ornament a small uncharged shield. In a doorway of not much later date in the church of Uffington, in the same county, the spandrels are enlarged, and each contains a crested helm with small pendent shield below [fig. 14]. The further development of the armorial spandrel is well seen in the Erpyngham Gate, at Norwich, built after 1411, and in the west porch of the cathedral church there, the work of Bishop Alnwick before 1436. The arch that carries the chantry chapel of Henry V. across the ambulatory in Westminster Abbey church furnishes a good example of intermediate date. In all three cases the spandrels are filled with tracery and heraldic insignia. Another Norwich doorway, now built into the Gildhall, carries us a step further [fig. 15]. Besides armorial spandrels of unusual richness, the finial above the door is a sculptured representation of the royal arms and supporters of King Henry VIII. The final stage is illustrated by the west doorway of King's College Chapel, Cambridge, in the form of a large compartment over the arch entirely filled with heraldry, in this case the Royal Arms and supporters and huge Tudor badges. An even finer example of the same date, *circa* 1510, occurs on the gatehouse of St. John's College, where the armorial ensigns and badges of the foundress, the Lady Margaret Beaufort, also fill a large compartment over the entrance [fig. 16]. In this case, however, more distinct traces survive of the spandrels from which the over-panel has been developed.

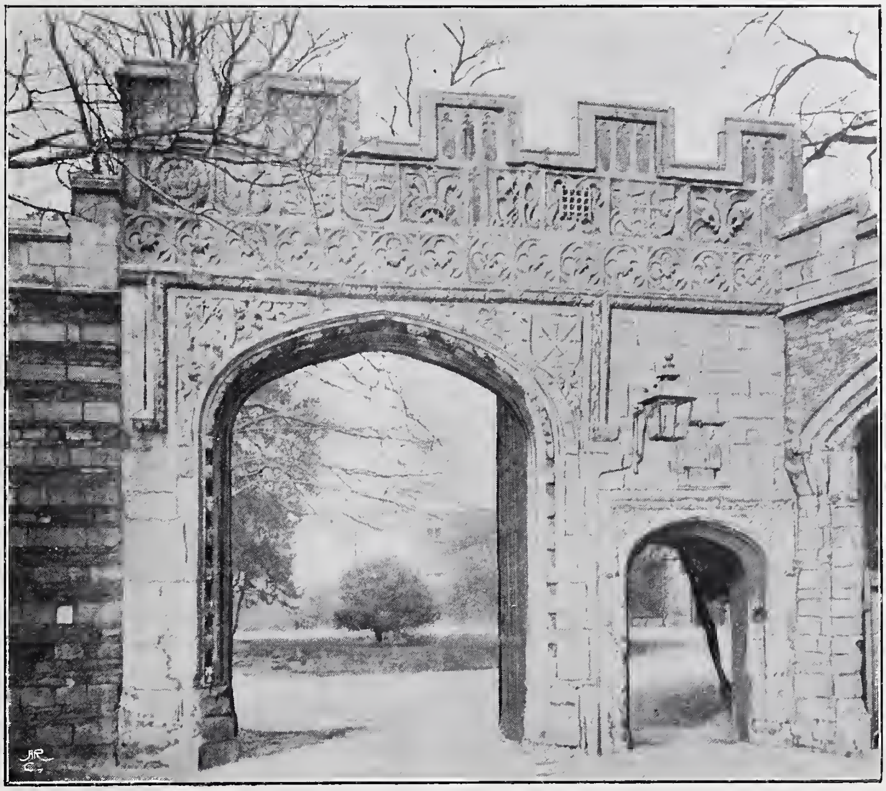
FIG. 11.—Gateway to the Deanery, Peterborough. Built by Robert Kirktou, abbot, 1497 to 1526. (From a photograph by Mr. A. Nicholls.)

A similar chain of progressive examples might be formed from a series of vaults with armorial bosses. A conveniently early instance is afforded by the late fourteenth-century vault of the Lady Chapel at Ottery St. Mary, whereon shields of arms appear in conjunction with foliage and figure subjects. The aisle vaults at Winchester are a somewhat later example of the same usage. The cloister alleys at Canterbury, built during the reign of Henry IV., have lierne vaults with bosses that are almost all armorial; and the same treatment is seen in the south porch of the same church, where the bosses are carved with shields of several sizes encircling a central one with a still larger shield of the Royal Arms. In this case the arms fix the date at about 1422. All the vaults in the central and western parts of the church of Canterbury are more or less heraldic, and form a good series of examples of this mode of decoration. Another interesting heraldic vault is that over the presbytery of the cathedral

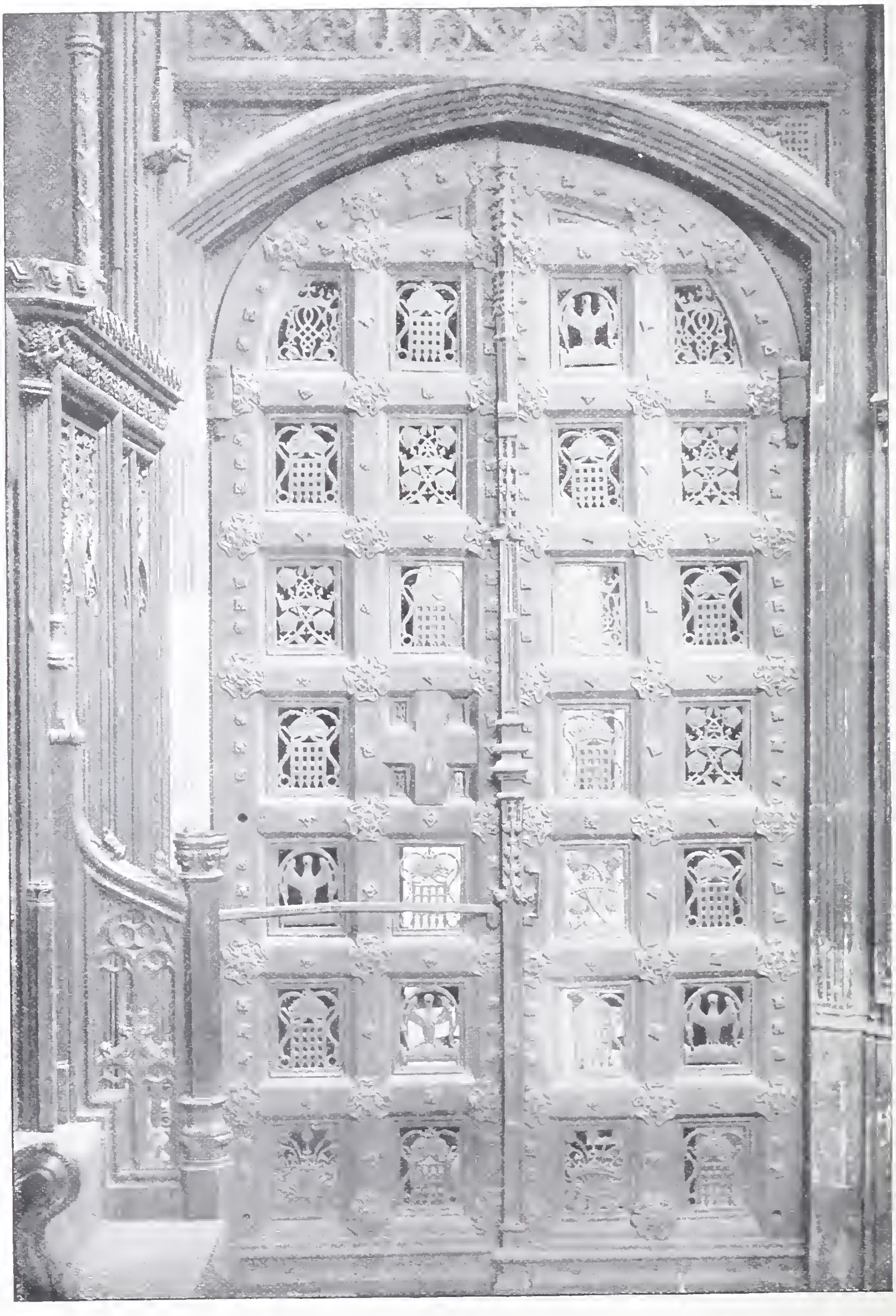

FIG. 12.—One of the Bronze Doors at the west end of the chapel of Henry VII. at Westminster, with Tudor Roses and other Royal Badges.

church of Norwich. In this most of the bosses are carved with *gold wells*, the rebus or "reason" of Bishop James Goldwell (1472–1499), to whose munificence we largely owe the beautiful Perpendicular work of the eastern arm of the church. The effect in this case of the oft-repeated rebus is hardly as satisfactory as that of a series of shields, and cannot at all compare with the bewildering splendour of a lot of badges. One of the best examples of these is afforded by the vault covering the quire and presbytery of St. George's Chapel, Windsor, contracted for in 1505. It is adorned throughout with elaborate bosses and pendants, wrought with the Royal Arms and badges, and those of the contemporary Knights of the Order of the Garter, all gleaming with gold and colour. The same treatment may be seen in the nave vault of the chapel, from which that of the quire was expressly directed to be copied.

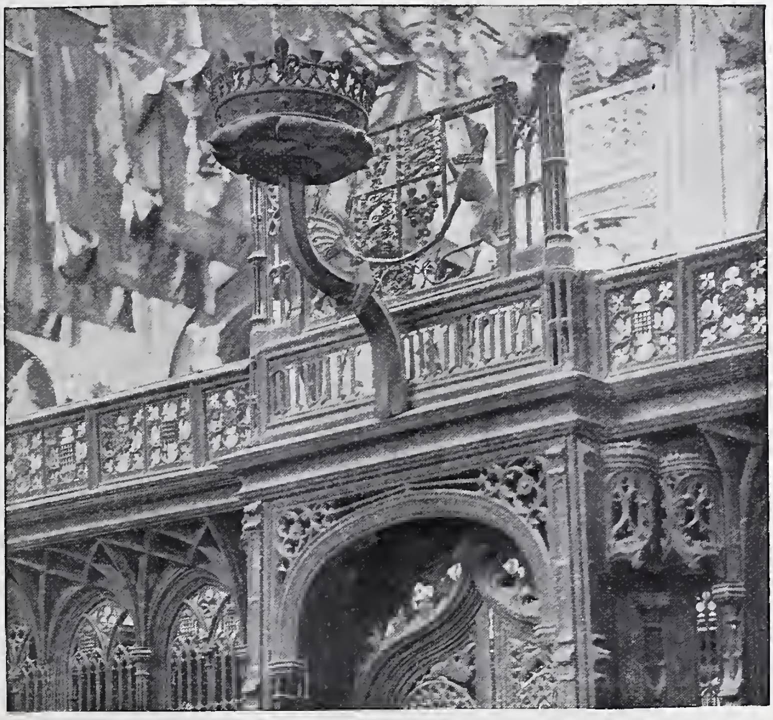
Fig. 13.—Part of the Bronze Grate enclosing the tomb of Henry VII. and his Queen at Westminster, with the Royal Arms and Badges. The great branch for a candle over the door is fashioned as a crowned Tudor Rose.

Another and almost equally fine example of such an heraldic vault is the wooden one of the presbytery of Winchester, put up by Bishop Fox before 1520. Like the Windsor vault, it has the bosses painted and gilded with excellent decorative effect.

The introduction of fan vaulting necessarily limited the display of heraldry. In the aisle vaults at Windsor, for example, armorial devices are confined entirely to the centre of each severy, and in the great vault of King's College Chapel, Cambridge, the crowned roses or portcullises which form the pendants alone are heraldic.

Before concluding my remarks, I should like to offer a few practical considerations on the artistic treatment of the heraldry itself, which are suggested and illustrated by the foregoing examples of its application to architecture.

One of the first things to notice in ancient heraldic art is the liberty taken with the shape of the shield. The earliest forms of shield were simple, but others were introduced from time to time, and in the fifteenth and sixteenth centuries these often assumed strange and irregular outlines. The early heater-shaped shield, however, owing to its capabilities, always remained in use. The shape of a shield was, of course, purely a matter of fashion; and except in the case of the inconvenient lozenge form, which was usually reserved, even in the fourteenth century, for the armorial bearings of ladies, it has no significance whatever. A point on which the Mediæval artists were usually most particular was the covering of the field or ground of the shield as far as possible with whatever it was charged, either by taking advantage of the elastic or expansible character of the charges or the judicious adjustment of their proportions. The enamelled escutcheons on the tomb of Edward III. are beautiful illustrations. Nowadays this important point is almost entirely overlooked, and its being so is one of the reasons for the poverty-stricken appearance of modern heraldry. Witness the treatment of the Royal Arms, for example, on our coins, our banners, and elsewhere, and, in fact, of heraldry generally on recent monuments and buildings.

Another matter to which I would call your especial attention is the treatment of crests. In all good heraldry down to quite recent times the crest was *invariably* shown, as it was in fact, as part and parcel of the helm on which it was fixed; and it was never represented as separated from the helm, except in a few cases where it stood on a cap of maintenance, which is, of course, another form of headgear. The crest faced the same way as the helm, and usually rose from within a torse (a twisted band of two or three colours) or a coronet. From behind it fell the mantling, which was a simple scarf of some kind, probably to keep off the sun. In conventional representations the mantling soon assumed more ample proportions, until it extended beyond the helm on either side, and was disposed in graceful twists and folds with dagged edges to represent the supposed cuts it was liable to receive in the field.

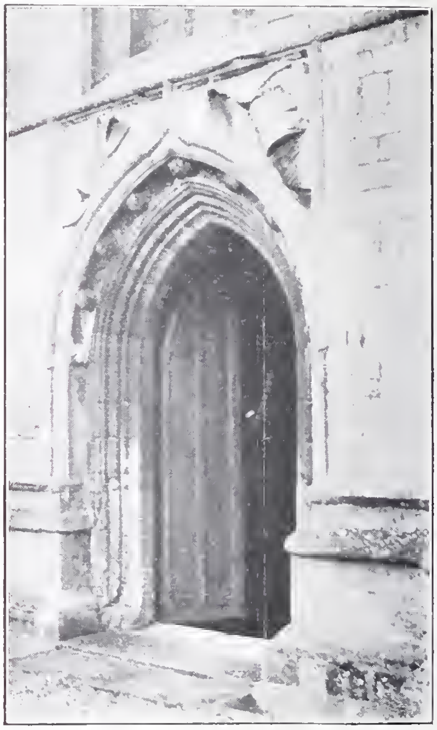

Fig. 14.—Doorway in Uffington Church, Lincolnshire, with crested helms, &c. in the spandrels.
(From a photograph by the Rev. Walter Marshall.)

The helm and its crest, with the mantling, thus became a feature capable of an infinite variety of beautiful treatment, and one that the old men evidently revelled in. Some of the most delightful examples are to be found amongst the stall-plates of the Knights of the Order of the Garter at Windsor [see figs. 17, 18, 19], a storehouse of heraldic art which is but little known or appreciated. I could not resist bringing down for your edification a number of coloured photographs of these charming memorials; and I will ask you to notice the treatment of the crests, and how flatly the colours of the mantlings contradict the modern rule that the mantling should always follow the principal metal and colour of the arms. Here the majority are red, with a lining of ermine, but various delightful variations are found, and these are among the things that make old heraldry a matter of enjoyment.

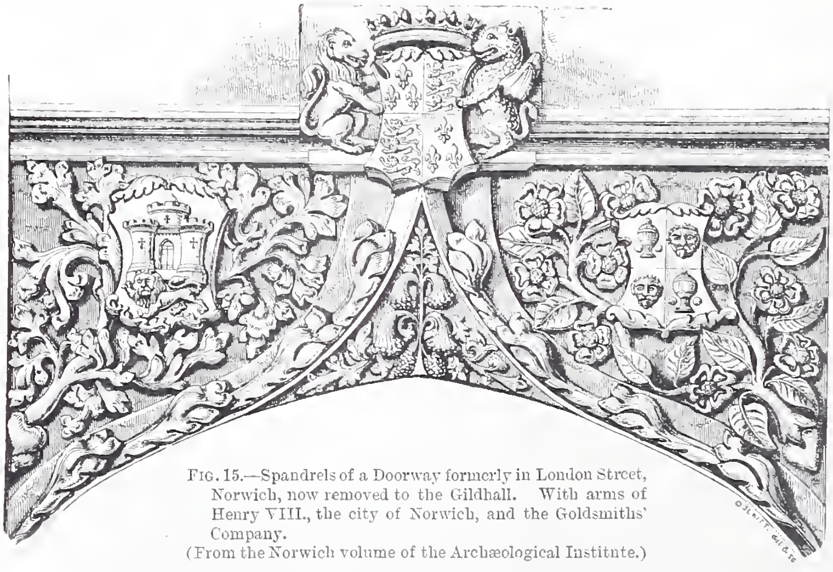

Fig. 15.—Spandrels of a Doorway formerly in London Street, Norwich, now removed to the Gildhall. With arms of Henry VIII., the city of Norwich, and the Goldsmiths' Company.
(From the Norwich volume of the Archæological Institute.)

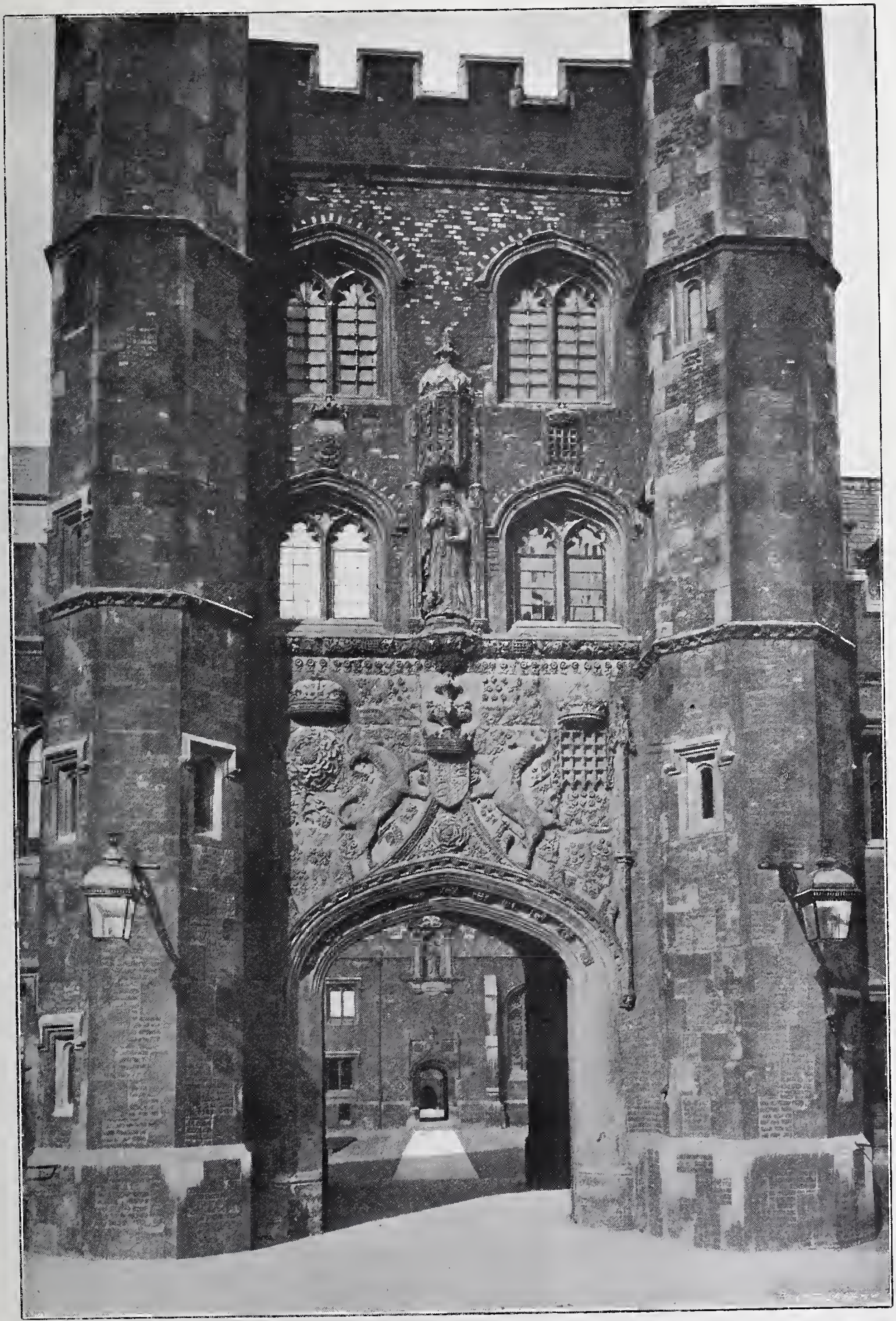

FIG. 16.—Gatehouse of St. John's College, Cambridge. Built about 1510. With arms, supporters and badges of the foundress, the Lady Margaret Beaufort, mother of Henry VII.

(From a photograph by Valentine & Sons, Dundee.)

Nowadays the crest and its torse are severed from the helm and represented by themselves. But the miserable object thus formed, for it always is a forlorn and miserable object, is still called a "crest," and some people think it a mark of distinction to have such a "crest" printed on their note-paper, or engraved upon their plate, or stamped on their servants' buttons. If an architect can find any joy in designing a work which includes a "crest" of this poverty-stricken type he is content with little.

Almost as soon as crests came into fashion about the middle of the fourteenth century those delightful artistic adjuncts known as supporters also sprang into being. There can be little doubt that supporters originated on seals, in the animals and figures that were often grouped round a central shield to fill up the vacant spaces. These creatures had almost always some heraldic significance, and it was but a step onwards from the first placing of them on each side of a shield to represent them as holding it up, and so becoming supporters. When the shield is surmounted by, and more or less subordinated to, the helm, crest, and mantling, it will be seen in all good ancient examples that the supporters then uphold the helm as being the heavier object, the shield being assumed to hang from it. A true sense of balance and security is thus obtained, and the supporters take their proper part in the composition. In architectural works the effect of such a group often may be of the greatest value, and many beautiful examples are to be met with on tombs and monuments, or over doorways and archways. The Courtenay fire-piece at Exeter [fig. 7] and the Ramryge chapel at St. Albans [fig. 9] afford excellent illustrations of the proper use of supporters; and I have already shown you two fine instances from Cambridge in the panel from King's College Chapel [fig. 10] and the grand gatehouse of St. John's College [fig. 16].

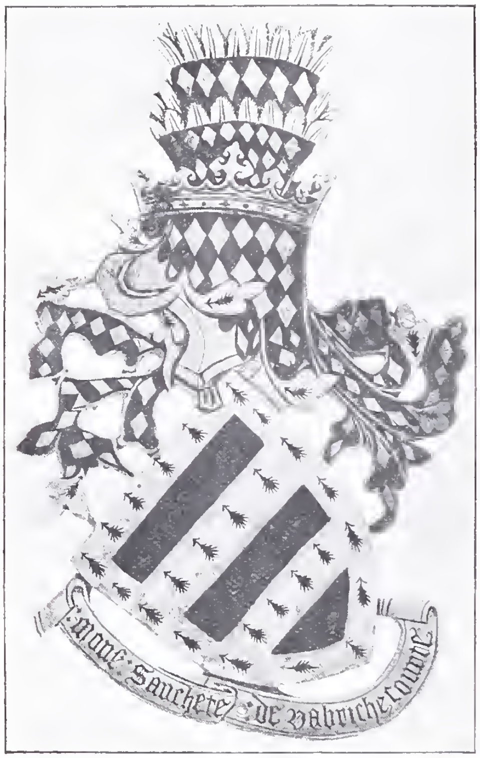

FIG. 17.—Stall-plate of Sir Sanchet d'Abrichecourt, K.G., 1348-*c.* 1360. Date of plate, 1422.

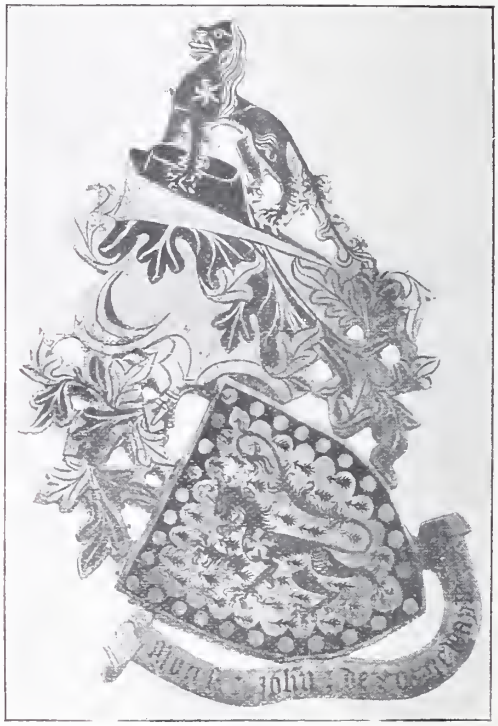

FIG. 18.—Stall-plate of John, Lord Cornwall, K.G., *c.* 1409-1443. Date of plate, 1422.

Our forefathers further utilised supporters and heraldic creatures generally as holders of shields, as on the buttresses of King's College Chapel at Cambridge, or as bearers of banners, like those on the Bourchier monument at Westminster [fig. 8]. Examples are not uncommon on the richer buildings of the Perpendicular period. The contract for vaulting the quire of St. George's Chapel, Windsor, dated 1505, stipulates for the completion of the buttresses, parapets, and pinnacles, "and the King's bestes stondyng on them to bere the fanes on the outside of the said Quere." These beasts were figures of lions, antelopes, greyhounds, and dragons, one on every pinnacle, each holding a long rod terminating in a gilt vane. They are shown in place in Ashmole's view of the chapel, and a charming effect they must have had. Unfortunately they were all taken down and destroyed during the last century.

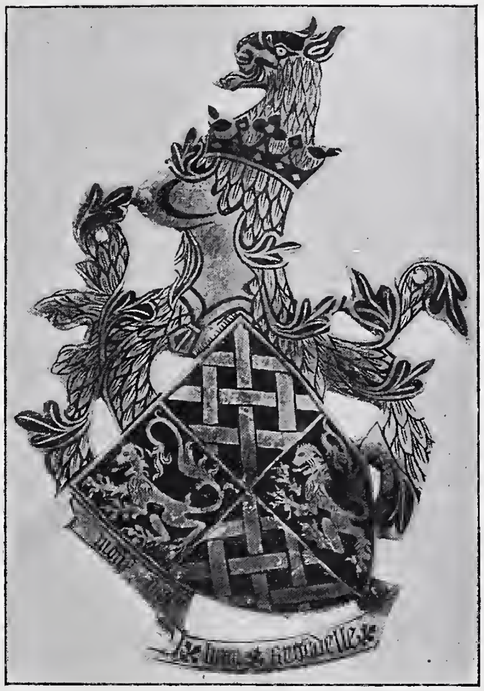

FIG. 19.—Stall-plate of Sir William Arundel, K.G., 1395-1400
Date of plate, 1422.

Like beasts and vanes, all brightly painted, once stood on stone pillars arranged along the flowerbeds and round the ponds in the pond garden at Hampton Court, and the beds themselves were bordered by low brick walls and wooden posts and rails, painted with the green and white of the Tudor livery colours. The Mount in the same garden, whereon stood the great Round Arbour, was also set about with figures of "the Kynges and the Quenys beestes in tymber." The aspect of this truly heraldic garden must have been delightful in the extreme. Charming peeps of it may be seen through the archways represented at either end of the great picture of Henry VIII. and his family at Hampton Court.

There are a number of other matters on which much might have been said, such as the use and treatment of badges, the misuse of the buckled band restricted to the motto of the Order of the Garter, and the wretched system of representing the tinctures of a shield, crest, or supporters by dots and hatchings. But for information on these and other kindred matters I must refer you to a Paper I recently read before the Society of Arts upon "The Artistic Treatment of Heraldry." *

I must not conclude without expressing my warmest thanks to my good friends, the Rev. Walter Marshall, Mr. J. P. Gibson, and Mr. Emery Walker, for their kind loan of most of the lantern slides I have been able to show you this evening.

DISCUSSION OF MR. ST. JOHN HOPE'S PAPER.

Mr. ASTON WEBB, F.S.A., *Vice-President*, in the Chair.

MR. J. ALFRED GOTCH [*F.*], F.S.A., proposed a very cordial vote of thanks to Mr. St. John Hope for his most admirable Paper, and said that he had been exceedingly struck with the very interesting series of views thrown on the screen. Looking at the subject from the decorative point of view, the later examples pleased him more than the earlier. The older the shields and devices the simpler they were; but for pure interest of design, as apart from merely statement of fact, some of the shields of a later period, such as that of the Bishop of Exeter, struck him as most beautiful and ingenious: the heraldic facts were portrayed most charmingly; not only were the alliances and matters of history given, but the work showed the actual skill and ingenuity of the designer and the love he had for his work. So with the tomb in Henry VII.'s Chapel—it was a most remarkable example of the arms of England in bronze-work. A more elegant supporter than the greyhound afforded could not be conceived, and the way the arms were displayed was most ingenious, because, as a rule, in drawing heraldry the various badges were shown entirely separate; but in order to have them supported when on the shield all those things had to be shown. If he might offer a word of criticism on the designs of men who designed far better than was done in the present day, he thought that in some of the Tudor work at King's College Chapel, for instance, the badges seemed rather coarse, and a little bit out of scale with the charges on the shield, because the badge itself was perhaps as large an area as the shield. The illustrations put before them by Mr. Hope showed the great advantage of studying heraldry, not only in the flat, but in the round. One could learn something with respect to the charges, &c., in heraldry better by modelling than by drawing the shield; one learnt then how the shield was constructed, and how the charges and the variations which the shield bore were logically placed the one in relation to the other. Mr. Hope had remarked upon the freedom in heraldry; that certainly was one of the great things at which modern designers ought to aim. Certainly great freedom in drawing the charges and the shield shape was taken by the old designers, but that freedom was entirely lost in the last century and the century before that. Mr. Hope had said that the only shape of shield particularly devoted to one purpose was the lozenge, which was devoted to the ladies. Considering the origin of heraldry, and that the badges or insignia were worn by knights enveloped in cumbersome armour, it was curious that ladies should ever have thought of indulging in heraldic badges. He supposed that soon after its inception heraldry took a little departure from the strict line it ought to have followed in its pure development, and became not only useful but decorative; and the ladies, with the usual facility of their sex, seized every opportunity of applying such decoration to their already decorated persons. A curious instance of the use ladies made of heraldic devices was shown in Spain, where ladies who were unmarried displayed a shield, one half of which was devoted to their paternal coat, and the other half left blank on which to put the arms of their husbands. Apart altogether from the decorative point of view of heraldry, architects especially should find it exceedingly useful from the amount of light it threw upon history. Very often the only clue one had to the date of a building lay in the shields which adorned it; and so, altogether apart from the pleasure one had in fine drawing (and that was one of the chief charms of ancient heraldry), its historical use was a great point. One of the slides showed some shields that were charged, not with arms at all, but with letters and with figures—with a monogram and dates. That was an interesting thing to notice, for even in Mediæval times the shield, which one naturally thought would be of a shape to be devoted entirely to heraldic bearings, was used in that instance to carry letters or initials.

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* *Journal of the Society of Arts* (19th February 1897), xlv. 227. [The Institute owes to the courtesy of the Editor of the *Journal of the Society of Arts* the blocks of figs. 2, 12, 13, 17, 18, 19, which originally appeared in that Journal among the illustrations to Mr. St. John Hope's Paper.—ED.]

Mr. J. J. STEVENSON [*F.*], F.S.A., in seconding the vote of thanks, said it had been a pleasure to listen to the Paper, not only from Mr. Hope's knowledge and precision and accuracy of statements, but even more from the charming set of examples of old heraldry shown on the screen. They made people in the present day feel quite poor and poverty-stricken that they could not do likewise, even with the Royal Institute of British Architects to help them. Heraldry must have begun long before letters. It was simply a picturesque way of writing one's name, and belonged to the same class of things as signs of public-houses, invented before people could read. Looked at in that light he could not understand why it should be thought presumptuous or upsetting to put one's family sign on one's house or plate. In regard to the modern use of arms, there was the difficulty of the helmet. Helmets were not worn nowadays, and one could not well put a crest on a top-hat! That was the excuse he would make for people using the crest without the helmet; or one might use it by itself on a building, as parts of the arms were used separately in old time, as ornaments, though it is properly an addition to the head-covering. If heraldry is a mode of writing one's name, the bearings may be put on a plate, or a shield, or anywhere else, without a helmet. He wanted to make heraldry a practical modern thing. He did not in the least see that the beautiful old picturesque way of writing one's name, especially on buildings, should not be kept up. As to the origin of crests, that was rather an archæological question. The old crests were of enormous size. That on the tomb of the Black Prince in Canterbury Cathedral looked like a real leopard. Every architect ought to know that the mere form of the shield was a matter of mere fashion, and of no importance. Those marks or bearings were often put on coats, and on these they would not take the form of a shield, but be simply dispersed over it. Mr. St. John Hope referred to the doorway of St. John's College, Cambridge. He (Mr. Stevenson) had been fortunate enough to be the discloser of the chimney-piece in the other College which Lady Margaret built at Cambridge, Christ's College. He had some work to do there, and the new Master wanted a design for his drawing-room chimney-piece. The existing chimney-piece was a very excellent and substantial one of black and gold marble, of the usual type, with pilasters at the sides; and he suggested there must have been an old chimney-piece there. It was the private room of the Lady Margaret. He remembered the interest with which they took down that chimney-piece, and, taking out some bricks, saw at one corner a little piece of moulding which was evidently of very ancient date; and next morning the whole chimney-piece was disclosed quite perfect. It was well it had been built up, as otherwise it might have been restored. There were marguerites on it for "Margaret," as well as her monogram and the King's, the fleur-de-lis, and the rose and portculiis, each about a couple of inches square.

Mr. HUGH STANNUS [*F.*] said that Mr. Stevenson had mentioned the shrinking from using coats-of-arms on the part of clients as being an assumption of too much; and he had found the same feeling; but when a man was of ancient blood or good family, then it was a pity he did not allow it to be stated. And when a man was "a new man," even then he might have a coat-of-arms, on proper application to the Heralds' College. One remembers the "new man" when he was challenged with having assumed arms, and told that he was of no family, and his reply, "No, but I am going to found a family; and they will use my coat-of-arms hereafter." With regard to the helmet, he was always in favour of using it over the shield, with the wreath and mantling falling from it. The whole, when complete, is much more beautiful for decorative treatment. All heraldry is a conventional method of stating a certain fact, and if the conventional method of putting the arms on a shield were adopted he saw no reason why the helmet and its accessories should not be shown. The use of the helmet further gives an opportunity for having a boss or lump coming over the flat shield; and this bossing is the very essence and life of relief-work. With regard to the main question, he thought architects might look upon the subject from two points of view. First of all, Heraldry is introduced to give information, to tell a story as to who were the personages who lived there, who erected the building, who was buried there, or who had been the benefactor generally. That, of course, is the Storiation side of Heraldry. It is really one branch of that great subject of Storiation which all artists should introduce in their art works. It was useful to give some statement or story, and to us now it was often the only means of learning dates and names. In regard to the shape of a woman's shield, it should be borne in mind that originally the heraldic coat-of-arms or device was personal and individual; and it was only after the lapse of some time that it became a family cognisance. While it remained merely a personal thing, a man might change his heraldry as often as he liked; but once it had become a family matter, then, obviously, it was necessary to differentiate the woman from the man, just as the sons were differentiated from their father; and hence the lozenge shape. The family use, or hereditary use, of Heraldry had necessitated the registration (if he might call it so), and the College of Arms, or Heralds, whose function would be to take care that people did not appropriate each other's Heraldry, just as, at the present day, they would not be allowed to appropriate each other's trade marks. When it had thus become a family more than a personal mark, the question comes in, where would be the most natural place to put it? Obviously in going up to a man's home or castle, instead of seeing his brass name-plate on the door, stating that Mr. So-and-so lived there, the visitor would look up and see a central shield carved over it; and this would show who lived in the castle, while the collateral shields would show the family alliances. Then, on going further into the hall, where the retainers stood, and where, perhaps, the owner would meet his guests, a very natural thing would be that the heraldry should be there also, displayed in the frieze. And further, at the common hearth where all the family collect, then obviously the mantelpiece would become the great place for the displaying of the family alliances; and all this would be a very useful piece of Storiation. From the second point of view—that of decoration (and architects had to look at it decoratively more than as matter of Storiation)—there are certain definite principles which govern its introduction. We wish to tell the story; but also to tell it in an artistic manner. As he had remarked before (when he had the pleasure of hearing Mr. St. John Hope give the substance of his Paper), he thought that when heraldry is introduced in architecture, then of course it must be subordinate to the principles that govern architecture; and those would be such principles as would require that the shield and all its accessories should show a sense of the shape in which they were enclosed, whether a frieze or spandrel or any other panel; and that, further, they should have some sense of the surface on which they are applied. In the ordinary case of work in relief, Diapering makes the surface a tone lower, by reason of the shadow cast upon the ground from the projecting parts. Therefore it is necessary, when a man desires to emphasise the changes, that he should diaper the ground. The folds of the Mantling also "force-up" the flat shield, by contrast. That is entirely independent of the question of colour, because probably architectural or external heraldry will be considered as a matter of relief rather than of colour. He thought the subject a large one, and that Mr. Hope's Paper was only, so to speak, the first portion of it. He trusted to hearing Mr. Gotch that day fortnight; and a further Paper, on some future occasion, which would deal with modern heraldry. He felt a little sorry that Mr. St. John Hope had somewhat decried modern heraldry, as he had seen some in Mr. John Clayton's studio, and also by Mr. T. R. Spence; and there was some good work by Pugin, which in his judgment was quite as fine as any heraldry that ever was done in the old times. Of course they had not done it "off their own bat," so to say, but by study of the old work; and he ventured to think that by the careful study of the examples of the old work, modern architects, as a body, might hope to emulate, and perhaps to equal it. This, however, could only be done by earnest and loving study.

Mr. J. D. CRACE [*H.A.*] said that in reference to the question of the abuse of the crest independently of its surroundings, it was interesting to consider what relation the crest and mantling and the helmet had to each other. The crest was probably stitched or fastened on to that which became the mantling. All that was bound on to the helmet, *i.e.* the cloth, was bound to it by the wreath or chaplet or coronet as the case might be, and the helmet was the solid body on which the cloth with the crest attached was bound by the wreath. A good deal of the freedom which Mr. St. John Hope had fortunately brought before the architects was due probably to a thorough knowledge of the general principles of heraldry and of the meaning of the insignia of heraldry. Freedom was a very dangerous thing to adopt by those who had not gone through the mill of real education. One saw it in art every day, and it was misused more completely than one cared to see. The magnificent examples of the gateways of King's and St. John's Colleges at Cambridge, and the still finer examples of those magnificent blazons or heraldry devised outside some of the great gates in Spain, where heraldry was carried to a wonderfully rich perfection, and where they were made the decoration of the noble spaces between two round towers of the gateway, and similar spaces, with areas of 15 or 20 feet square covered with the shields and supporters of the sovereign represented—those great spaces bearing ornamentation with meaning were worthy of admiration. It was well to bear in mind, where a man desired to infuse some meaning into the ornamentation of a building, that it could thus be done in such cases as municipal or State buildings, or buildings for public purposes, or even buildings for private purposes. They were each interesting in their own way. Mr. Hope, in referring to the beautiful bronze gates of Henry VII.'s tomb, wished that such work could be done nowadays. He did not know whether Mr. Hope had ever seen the brass gates between the entrance to the House of Lords' lobby and the House of Lords; but in his opinion they did not suffer by comparison even with the Henry VII. gates, and they were done forty years ago by Harman from Pugin's drawings. They were well worthy of admiration as showing that ability existed in the present day to produce such things if there were only the knowledge to plan them and the demand for them. With reference to the tester over the tomb of Henry IV. at Canterbury, which was decorated in colour with heraldic devices and badges and mottoes, it was interesting to find that it was decorated on at least three separate occasions, and one could follow distinctly the three periods at which it was redecorated, always with the same devices, and none of them could be later than the time of Henry VII. That showed that much attention had been paid to keeping up the character and appearance of that monument.

The CHAIRMAN, in putting the vote, said that they were extremely glad to see present so many experts in heraldry—which they as architects could not profess to be. They must look to a great extent to those gentlemen if any improvement in modern heraldry were to take place. At the same time architects were fully alive to the importance of this matter in conjunction with their own art. They realised very fully that the poetry and the history of their buildings must always, in point of detail at any rate, largely depend upon the introduction of heraldic devices. One recognised very well in the little almshouse outside the town the value of the small heraldic panel over the gateway, just as much as one recognised the magnificent result in the great castle or the stately church. With regard to modern architecture, they had an excellent example of general heraldic treatment in the Houses of Parliament. The way heraldry had been there introduced, principally by Pugin, over the whole of the building, not only into the architecture, but also the way in which the charges were placed in the shields, and the general execution of the detail, was a wonderfully good example of modern heraldry of which architects might well be proud.

Mr. W. H. ST. JOHN HOPE, M.A., in reply, said that he began his Paper with the understanding that most of those present were acquainted with what he might call the elements of heraldry, and that it was not necessary to go into what might be learned from an ordinary textbook. The sole point with him was how far heraldry and architecture were associated together. The question of the use of heraldry by ladies was entirely an archæological one: it originated when heraldry became hereditary. At first, arms were not hereditary, nor were crests hereditary for a long time, and mottoes were not hereditary even now; but when heraldry became hereditary, and every house had its own arms, it was used in slightly different ways by the different male members of the family, because they might be the founders of branches of the house. Then ladies used them; but as they did not found branches of a house, but assisted sometimes in founding a branch of another house, they did not make any difference in the paternal arms, as did the sons. Even the use of the lozenge was not restricted to the ladies. He had mentioned the case of the monument of William de Valence, where the remaining portion of the bedplate of the effigy was adorned with beautiful enamelled lozenges with the arms of England and De Valence on them, and he might have brought a lantern slide which would have represented the arms of a man on a lozenge instead of a shield. If it became necessary in designing a diaper to put arms on lozenges instead of on shields, the Mediæval artist had no hesitation in doing so. Mr. Stevenson had objected to the use of helmets on the principle that nowadays helmets were not worn, and Mr. Stannus had reminded him that we do not bear shields; but he would like to remind Mr. Stevenson of what he (Mr. Hope) tried to make clear, that if the crest were taken off a helmet it ceased to be a crest, because the very word "crest" meant a plume or something erect on the head of a bird or beast, and the first crests were therefore such things as plumes on heads of birds. With regard to the size of crests, of course it *sounded* very absurd to talk of a man having a lion for his crest; but a man did not wear a full-sized lion, but only a model of one. That poor dilapidated leopard which surmounted the Black Prince's helmet at Canterbury was in his custody at the Society of Antiquaries some little while ago, with all the other insignia on the tomb. It never belonged to the Black Prince at all, but was made after his death, and was part of the paraphernalia borne at his funeral. It was, nevertheless, a real crest, and made of leather covered with gesso-work. One could readily imagine that any object which did duty as a crest in the fourteenth century, if made of hollow leather, would weigh comparatively little, even if, like the Bourchier crest on one of the stall-plates, it had a long pigtail behind. With regard to the fixing of crests, on such of the few old helmets as they had, it would be found that, in addition to the holes that were made to fix the lining and the cushion that carried the weight on the man's head, there were certain extra holes that had nothing to do with the lining and padding, but were obviously made for fixing on the crest. The other holes were generally arranged in pairs, because there was a lace came through which was tied with a little bow outside; but these other holes were distributed regularly round the top, and were no doubt used for fixing the torse and the crest that rose from within it. In the later helmets there was a little pipe or tube at the back, which was used for the same purpose; and if one walked through Hyde Park while the Guards were doing sentry one would find that on a wet day, when they have laid their plumes behind, each man's helmet ends with a little spike with a tube at the top in which he could stick his crest; and his plume is of course a crest. He did not consider it came within the scope of his Paper to talk of the magnificent modern heraldry in the Houses of Parliament; of course it was obvious to any one who went by them how very beautiful the heraldry was. But then Pugin, who was entirely responsible for it, was a man who was simply soaked with Mediævalism of every kind, and to draw all those beasts, and those shields, and those beautiful badges, and so on, was as much second nature to him as it was to the man who carved those beautiful shields in the spandrels on the arcades in the Abbey. As regards foreign heraldry, he had not time to go into it, otherwise just as much could be said about the heraldry of Spain or France or Germany as about the heraldry of England; but in discussing fully the heraldry of one country, a general idea could be obtained of the heraldry of other countries, because just as there was one prevailing kind of architecture which went through Europe at one particular time, so there was one particular kind of heraldry. The rich heraldry of Spain could, of course, be paralleled in a less splendid degree by examples in our own country; but there was this difference in the heraldry of England and that of Germany or Spain, that it did not run riot to quite the extent that foreign heraldry did. The German heraldry was magnificent and beautifully picturesque, but it seemed to run into extravagances from which the English heraldic artists altogether kept free. In Spain that was perhaps less the case than in German heraldry, and he very much wished that somebody who had been in Spain, and knew its buildings, would write a Paper upon Spanish architectural heraldry, and illustrate it by a magnificent series of lantern slides. He was afraid that if it had not been for the kind friends he had mentioned it would have been quite impossible to have shown a tenth part of the beautiful examples that abounded in our own country, because the photographers would not take the views. They would take a picture representing the whole side of York Minster, for example, which, even if magnified to the size of the meeting-room, would not show any detail. One would like to see photographs of some of the fourteenth-century castles that existed in the North, but one tried in vain to get them—the photographers would not photograph them. They offered to take them if commissioned to; but why should they not photograph them on their own account, and have them on sale?

9, Conduit Street, London, W., *18th March* 1897.

CHRONICLE.

International Competition for Theatre at Kiev.

The results of the International Competition for designs for a theatre at Kiev are now to hand. Particulars of the competition, which was organised by the municipal authorities of Kiev, with the aid of the St. Petersburg Imperial Society of Architects, were published in the Journal, Vol. III. p. 550, together with a plan of the site. The awards have been made as follows: First Premium (2,500 roubles, about £250) to Professor Victor Schröter [*Hon. Corr. M.*], St. Petersburg; Second (1,500 roubles, about £150), to M. Heinrich Seeling, Berlin; Third (1,000 roubles, about £100), to M. Carlo Sada, Milan; Fourth (700 roubles, about £70), to M. Axel Anderberg, Stockholm; Fifth (300 roubles, about £30), to M. Georg Weber, Moscow. England was not represented among the eighteen architects who competed: these included nine Russians, three Frenchmen, three Germans, one Swiss, one Swede, and one Italian.

Portrait of the Ex-President.

Intending subscribers to the fund now being raised for the portrait of the Ex-President, Mr. F. C. Penrose, F.R.S., will be interested to learn that Mr. J. S. Sargent, R.A. elect, has kindly consented to paint the portrait in the summer.

The Architects' Benevolent Society.

The Annual General Meeting of the Architects' Benevolent Society was held on Wednesday afternoon, the 10th inst., in the Council Room of the Institute, the President of the Society (Professor Aitchison) occupying the chair. The Report of the Council for the official year, having been read, was adopted (see Report and Statement of Accounts, pp. 263–64). A vote of thanks to the outgoing Members of Council was proposed by Mr. Wm. Woodward, and seconded by Mr. H. H. Collins; and the following gentlemen were elected on the Council for the ensuing year: The President of the Royal Institute of British Architects, President, Mr. Wm. Kidner, Mr. Geo. Scamell, Mr. Zeph. King, Mr. George Inskipp, Colonel R. W. Edis, Mr. Arthur Crow, Mr. E. A. Gruning, Mr. G. T. Hine, Mr. Arthur Cates, Mr. Aston Webb, Mr. H. L. Florence, Mr. J. T. Christopher, Mr. Sydney Smirke, and Mr. Wm. Grellier. The President moved a cordial vote of thanks to Mr. Arthur Cates for his services as Honorary Treasurer, and expressed the personal regret his colleagues on the Council felt on his retirement, and the great loss which would be sustained by the Society through his withdrawal, although they would still have the benefit of his advice and assistance as a member of the Council. Mr. Zeph. King seconded, and Mr. H. H. Collins supported, the Resolution. Mr. Arthur Cates, in a brief response, thanked the Meeting, and expressed the wish that the Society were more generally supported by the architectural profession at large than was the case at present. On the motion of Mr. Wm. Kidner, seconded by Mr. Henry Hall, Mr. W. Hilton Nash was elected Hon. Treasurer. Mr. Nash, in acknowledging his election, threw out one or two suggestions which he thought, if followed, might be helpful in promoting the welfare of the Society. Mr. Percivall Currey, on the motion of Mr. Woodward, seconded by Mr. Scamell, was thanked for his services as Hon. Secretary during the past year, and re-elected in his office. Mr. W. Hilton Nash proposed, and Mr. King seconded, a vote of thanks to the retiring auditors, Mr. Henry Hall and Mr. Wm. Woodward, to which Mr. Henry Hall responded; and on the motion of the same gentlemen Mr. T. M. Rickman and Mr. R. St. A. Roumieu were elected auditors for the ensuing year of office. Mr. Arthur Cates moved a vote of thanks to the Institute for the use of office accommodation, &c., and the proceedings were brought to a conclusion by a cordial vote of thanks to Professor Aitchison, A.R.A., for presiding.

Additions to the Library.

Dr. P. J. H. Cuypers [*Hon. Corr. M.*], the Royal Gold Medallist elect, has forwarded two handsome folio volumes containing photographs and engravings of many of his executed works, as well as illustrations of designs of a miscellaneous character; and a number of detached photographs, chiefly illustrating sculpture connected with ecclesiastical buildings erected from his designs. Dr. Cuypers has also presented *Het Rijks-Museum te Amsterdam*, a series of plates in photogravure, published in twelve parts both at Amsterdam and at Paris; and the first part of the *Album van Ornamenten en andere Stylproeven uit de verschillende Tijdperken der Bouwkunst*, containing illustrations of ornaments and other architectural details of various periods, compiled by himself and M. Stoltzenberg. *Historique de la fondation de l'abbaye de Rolduc*, a pamphlet by Dr. Cuypers, with plates and many illustrations in the text, has also been received from the author.

Mons. Daumet [*Hon. Corr. M.*] has forwarded photographs and engravings of two of his principal architectural achievements, the Château de Chantilly and the Facultés de Grenoble, as well as a brief account of the former building, taken from the *Encyclopédie d'Architecture*, with illustrations.

From Mr. Edgar A. Hawkins [*A.*] has been received, for the Reference Library, Richardson's *Collection of Ornaments in the Antique Style*, containing twenty-seven plates in good condition [London, 1816]. To the same department has also been added a copy of Le Pautre's *Les Œuvres d'Architecture*, containing an inscription from Professor Cockerell to Professor Donaldson, dated 1853; and the second and third volumes (which complete the series, the first volume being already on the shelves of the Library) of *Le Musée de sculpture comparée du Trocadéro*, each volume containing ninety-one plates [Paris: Guérinet].

Mr. Albert W. Cleaver [*A.*], the Godwin Bursar for 1895, visited America, and the Report which he has presented to the Institute consists of a handsome folio, in MS., containing a very complete account of the Johns Hopkins University at Baltimore, with numerous illustrations and plans to scale, making altogether a desirable addition to the literature on the subject of hospitals.

Spons' Architects' and Builders' Price-book, by W. Young, has been received from the publishers [London: E. & F. Spon], containing information in advance of previous years, including a chapter on electricity, with specifications and estimates of electric lighting installations carried out by the author, &c.; and divisions on concrete, fireproof floors, and granite.

The *Bullettino* of the Commissione Archeologica Comunale of Rome and the *Annuaire* 1897 of the Société d'Archéologie de Bruxelles, the *Transactions* of the Canadian Society of Civil Engineers (vol. x. p. 1), the *Proceedings* of the Royal Society (No. 366), the *Proceedings* of the Society of Antiquaries (vol. xvi. No. 11), have been received from their respective Societies.

MINUTES. X.

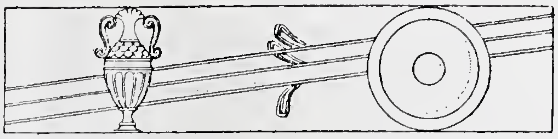
At the Tenth General Meeting (Ordinary) of the Session, held Monday, 15th March 1897, at 8 p.m., Mr. Aston Webb, F.S.A., *Vice-President*, in the Chair, the Minutes of the Meeting held 1st March 1897 [p. 240] were taken as read and signed as correct.

The decease was announced of Clifton Wilkinson Whittenbury, *Associate.*

The following Associate, attending for the first time since his election, was formally admitted, and signed the Register—namely, Alfred Edward Corbett.

A Paper by Mr. W. H. St. John Hope, M.A., entitled HERALDRY IN ENGLISH MEDIÆVAL ARCHITECTURE having been read by the author and illustrated by lantern slides, the same was discussed, and a Vote of Thanks passed to him by acclamation.

The proceedings then terminated, and the Meeting separated at 10 p.m.



ARCHITECTS' BENEVOLENT SOCIETY.

Report of the Council.

Annual General Meeting, 10th March 1897 [p. 262].

The Council of the Architects' Benevolent Society in the Reports which they have submitted to the Annual General Meetings during the last few years have been able to comment favourably upon the growing appreciation amongst architects generally of the good work accomplished by its efforts, and of the larger measure of support which it has received. Last year they had to lament the death of some of its oldest and most liberal contributors, and it was to be feared that the income of the Society would suffer a serious diminution in consequence. It is therefore with considerable satisfaction that they are able to announce that the progress recently made by the Society has, during the past year, been maintained.

This is to be largely attributed to the appeal issued by Mr. Penrose, the late President, in the early part of last year, to every architect in practice in the United Kingdom. Besides many handsome donations, the appeal was successful in adding some forty new names to the list of annual subscribers, and in obtaining increased subscriptions from some who were already liberal contributors. The Council wish to record their great indebtedness to Mr. Penrose for the trouble which he took in connection with the issue of this appeal, penned as it was on the very evening of his departure for Athens.

Still, although the Council have considerable satisfaction in noting the increase of annual subscriptions in recent years, they feel that the sum received is yet inadequate, in view of the fact that applications for assistance are made from all parts of the country; and they would point out that against the sum received last year in annual subscriptions, £460. 15*s*., no less than £569. 10*s*. was expended in grants; and to this sum should be added £35 advanced by the Honorary Treasurer toward the close of the year, when it was impracticable to convene a Council meeting to relieve the urgent needs of worthy applicants; so that the actual sum expended in relief during the year was £604. 15*s*. This sum, however, does not include the £70 dispensed in pensions, which are paid out of the income derived from investments.

With regard to the Capital Account, there was a balance at the beginning of the year to its credit of £117. 15*s*. 8*d*., and during the year the sum of £333. 12*s*. was received in donations. It was therefore thought well to increase the investments of the Society by the purchase of £250 Caledonian Railway 4 per cent. debenture stock, at a cost of £386. 17*s*. 6*d*., thus leaving a balance in the hands of the bankers on the 31st December of £64. 10*s*. 2*d*. This purchase increases the value of the Society's holdings of stock to (at cost) £9,893. 0*s*. 4*d*., which, with the balance at the bankers, leaves the total capital at £9,957. 10*s*. 6*d*. Successive Councils who have administered the affairs of the Society have for many years made efforts to increase the capital of the Society to £10,000, and it is a matter of satisfaction that the investments have now practically attained this point of stability, their value, indeed, at market quotations being in excess of this sum.

The Council have to announce, with great regret, that they have received an intimation from Mr. Arthur Cates of his intention of resigning the Honorary Treasurership, a position which he has held for seven years, and which has enabled him to render invaluable services to the Society. Mr. Cates has not only been a liberal donor and subscriber to the funds of the Society, he has also promoted its usefulness by the exercise of his influence in its behalf, by the time and labour which he has always been willing to expend on its affairs, by the interest which he has taken in cases that have come before the Society for assistance, and by a just appreciation of the most advisable way of helping necessitous applicants. During Mr. Cates's term of office the affairs of the Society have year by year steadily progressed, and it will be no doubt a matter of satisfaction to him to know that he leaves it in a more prosperous condition than when he undertook office. The Council duly recognise that the present favourable position of the Society's affairs is largely due to his administrative qualities. At the same time, while this has been effected, it has not been attained by parsimony in affording relief to applicants, or by want of the proper exercise of beneficent usefulness for which the Society was inaugurated, and for which it exists. When Mr. Cates undertook the treasurership the number of subscribers was 208; it is now 309. The amount received in annual subscriptions was £308; it is now £453. The amount of invested capital was £7,426. 2*s.* 4*d.*; it is now £9,893. 0*s.* 4*d.* It remains to be added that in 1893 Mr. Cates issued a personal appeal to the architectural profession for donations and subscriptions, with a gratifying result.

The Council have learned during the year, with deep regret, of the death of Mr. E. H. Dawson, Mr. F. J. Francis, Mr. Horton (of Messrs. Horton & Bridgford), and Mr. G. P. Raggett. They have also to record, with sincere regret, the death of an always helpful friend, and for thirteen years Honorary Secretary of the Society, Mr. William H. White, the late Secretary of the Royal Institute of British Architects.

Five meetings of the Council have been held during the year, the average attendance of members at each meeting being ten.

The following gentlemen, being the five senior members, retire by rotation from the Council, namely: Mr. T. M. Rickman, Mr. R. St. Aubyn Roumieu, Mr. J. T. Wimperis, Mr. Thomas Harris, and Mr. H. C. Boyes. To fill the vacancies caused by these retirements and by the retirement of Mr. W. Hilton Nash, the Council have the pleasure to nominate Mr. Arthur Cates, Mr. Aston Webb, Mr. H. L. Florence, Mr. J. T. Christopher, Mr. Sydney Smirke, and Mr. William Grellier.

To fill the vacancy caused by the retirement of Mr. Arthur Cates, the Council beg to nominate Mr. W. Hilton Nash for the post of Honorary Treasurer.

The Balance Sheet and Income Account for the year ended 31st December 1896, duly audited by Mr. Henry Hall and Mr. Wm. Woodward, are herewith submitted.

Dr. INCOME ACCOUNT FOR THE YEAR ENDED 31ST DECEMBER 1896. *Cr.*

DISBURSEMENTS.	£	*s.*	*d.*	£	*s.*	*d.*
To Three Pensions	70	0	0			
To Grants paid to Applicants	569	10	0			
				639	10	0
To Expenses:—						
Assistant-Secretary's Salary and Honorarium	50	0	0			
Stationery, Printing, and Advertisements (including cost of Special Appeal)	58	12	7			
Transfers of Stock, Fees, &c	9	0	5			
				117	13	0
To Balance carried forward				21	17	4
				£779	0	4

RECEIPTS.	£	*s.*	*d.*	£	*s.*	*d.*
By Balance from last Account (1895)				18	10	4
By Dividends on Stock:—						
£6,000 London and N.W. Railway 3 per Cent. Debenture Stock	174	0	0			
£2,100 2¾ per Cent. Consols	55	16	8			
£1,550 Caledonian Railway 4 per Cent. Debenture Stock	59	18	8			
				289	15	4
By Arrears of Subscriptions	2	2	0			
By Subscriptions 1896	453	8	0			
By Subscriptions paid in advance (1897)	5	5	0			
				460	15	0
By Income-tax returned up to 5th April 1896				9	19	8
				£779	0	4

Dr. BALANCE SHEET: 31ST DECEMBER 1896. *Cr.*

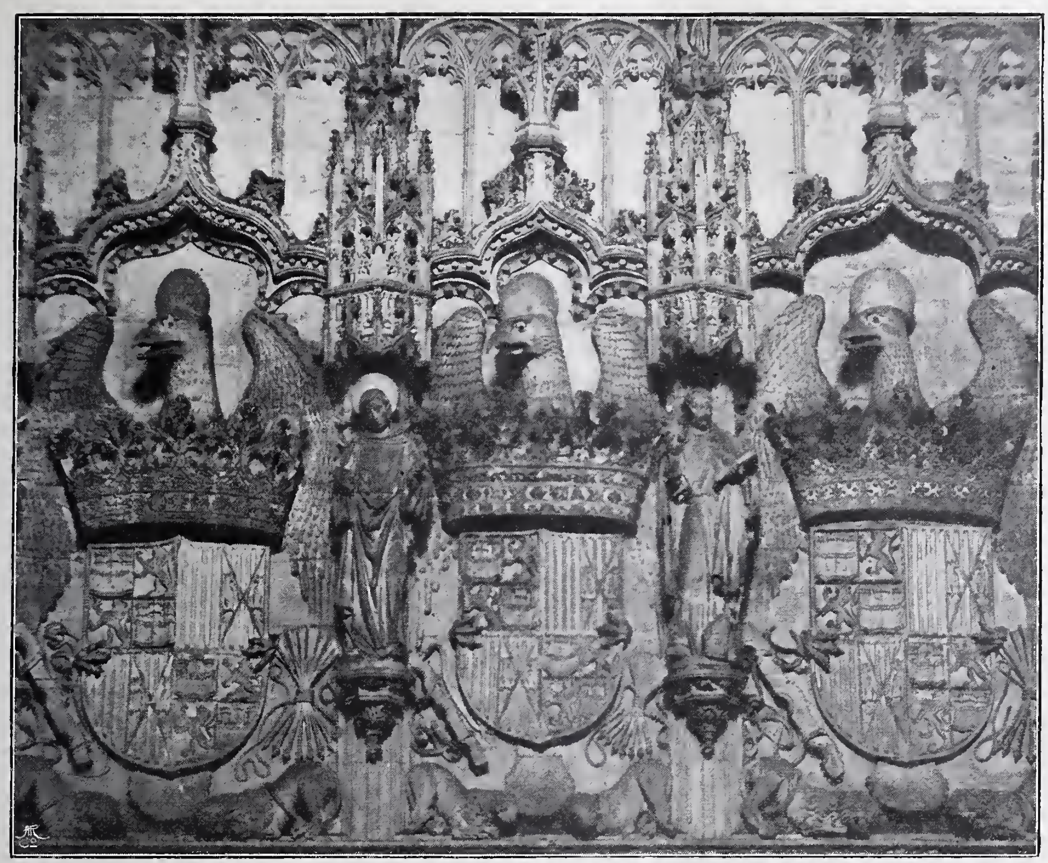
	£	*s.*	*d.*	£	*s.*	*d.*
To Capital:—						
£6,000 London and N.W. Railway 3 per Cent. Debenture Stock, purchased for	5315	16	2			
£2,100 2¾ per Cent. Consols purchased for	2110	6	2			
£1,550 Caledonian Railway 4 per Cent. Debenture Stock, purchased for	2080	0	6			
				9506	2	10
Cash in hands of Bankers 31st December 1895	117	15	8			
Donations received in 1896	333	12	0			
				451	7	8
To Balance at credit of Income Account				21	17	4
				£9979	7	10

	£	*s.*	*d.*	£	*s.*	*d.*
By Property:—						
£6,000 London and N.W. Railway 3 per Cent. Debenture Stock (cost)	5315	16	2			
£2,100 2¾ per Cent. Consols (cost)	2110	6	2			
£1,550 Caledonian Ry. 4 p.c. Deb. Stock (cost) £ 2080 *s.* 0 *d.* 6 £250 do., purchased Dec. 1896 (cost) 386 17 6						
£1,800 Caledonian Railway 4 per Cent. Debenture Stock (cost)	2466	18	0			
Cash in hands of Bankers (Capital)	64	10	2			
				9957	10	6
By Balance of Cash in hands of Bankers (Income)				21	17	4
				£9979	7	10

Examined with the books and vouchers and found correct, 13th February 1897.

HENRY HALL, } Auditors.
WM. WOODWARD, }

The Council, in closing this Report, desire to express the indebtedness of the Society to the Royal Institute of British Architects for the use of rooms in which to hold their meetings, to the Acting Secretary (Mr. Herbert G. Tayler), and to the officers for their always attentive courtesy.



Heraldry in the Franciscan Convent, San Juan de los Reyes, Toledo.

HERALDRY OF THE RENAISSANCE IN ENGLAND.

By J. Alfred Gotch [*F.*], F.S.A.

Read at the General Meeting of the Royal Institute of British Architects, 29th March 1897.

IN dealing with the subject of Heraldry before an audience of architects—or chiefly architects—I propose to approach it from the decorative side, not from the scientific; for architects are not likely to be called upon to grant arms to their clients, or even to marshal them for them, whereas it is not at all improbable that they may have to draw them; and to do this successfully it is essential to know something of decorative heraldry.

During the latter half of the sixteenth century and the earlier half of the seventeenth there was a general desire to make much of the antiquity and respectability of one's family, and one method of doing this was to display one's arms. There were many upstarts in Elizabeth's days; some of the proudest of our historic families emerged from obscurity into the dazzling light of her splendour, and presently afterwards fell to peopling that obscurity with ancestors whom it was no one's concern to challenge, but who, if they had been challenged, would have been as elusive as the ghost of Hamlet's father. The rearing not only of a large family, but also of a large ancestry, was characteristic of the times. It is astonishing how, in the grants of arms of the period, it appears that the Merchant Taylor, let us say, though of long descent, has forgotten what his ancestors' arms were, and how he requests the herald to search in the registers and records of his office; how the herald, impressed with the antiquity of the tailor's descent, cannot refuse to do so, with the result of happily discovering what those ancient arms were, and of confirming the grant of them to the tailor.

Shakespeare plays upon this foible of pride of ancestry more than once. *The Merry Wives of Windsor* opens with a conversation between Justice Shallow, Master Slender, and Parson Evans, in which the Justice rails at Sir John Falstaff for abusing him, Robert Shallow, Esquire—"who writes himself *armigero*," chimes in Slender, "in any bill, warrant, quittance or obligation, *armigero*." "Ay," says Shallow, "that we do; and have done any time these three hundred years." Then adds Slender, "All his successors, gone before him, have done't; and all his ancestors that come after him, may: they may give the dozen white luces in their coat." "It is an old coat," remarks Shallow, at which Parson Evans exclaims, "The dozen white louses do become an old coat well;" whereupon Shallow finds it necessary to explain that "The luce is the fresh fish."

Or again, in the *Taming of the Shrew*, at one period of the stormy wooing of Katharina by Petruchio, the lady strikes the gentleman, whereupon he cries, "I swear I'll cuff you if you strike again." "So may you lose your arms," replies she. "If you strike me, you are no gentleman; and if no gentleman, why, then no arms."

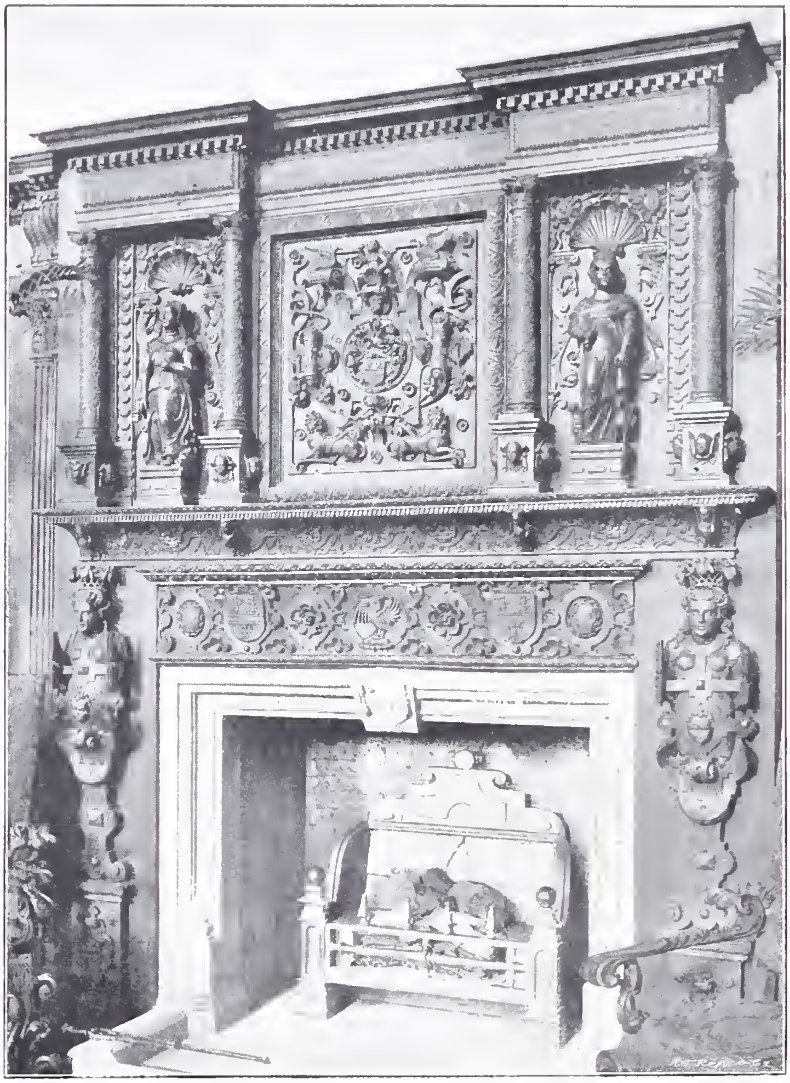


Fig. 1.—Chimney-piece from Castle Ashby.

That was the simple formula—no gentleman, no arms; no arms, no gentleman. A consequence of this was that the writers on heraldry of the times found it necessary to bestow arms on many conspicuous persons long deceased—"that worthy gentleman Japhet," "Duke Moses," "Duke Joshua," and King David. Even to Christ they assigned arms. They did not, of course, openly grant any of these arms, but assumed that they had always existed. One of the early books on heraldry, Gerard Leigh's *Accedence of Armorie*, gives the arms of the Nine Worthies, some of which are actually depicted on a very elaborate ceiling at Earlshall, in Fife, together with those of many Scottish families, and among others those of the "Emprioür" of Judæa, which consist in this case of a cross with large nails driven into it. Sir John Ferne, another early writer on heraldry, gives the arms of the nine worthy women, among whom were Minerva, Semiramis, Deborah, and Jael the Kenite. The arms of the Saviour of the World, or *Redemptoris Mundi Arma*, were not infrequently depicted. They consisted of the emblems of the Passion variously displayed, sometimes in a rather unheraldic manner, sometimes in a series of quarterings amounting to as many as sixteen or twenty. This idea seems to have sprung from Germany, where they were much addicted to the multiplication of quarterings. The shield is surmounted in the usual way with a helm and crest in the shape of a pillar, on which stands a cock; and it has two supporters: on the dexter side a sheep, and on the sinister a goat. The apt misapplication of ideas in this, as in many of the Scriptural subjects of the period, makes one often wonder whether the designers were poking fun at us, or whether they worked in pure simplicity of soul.

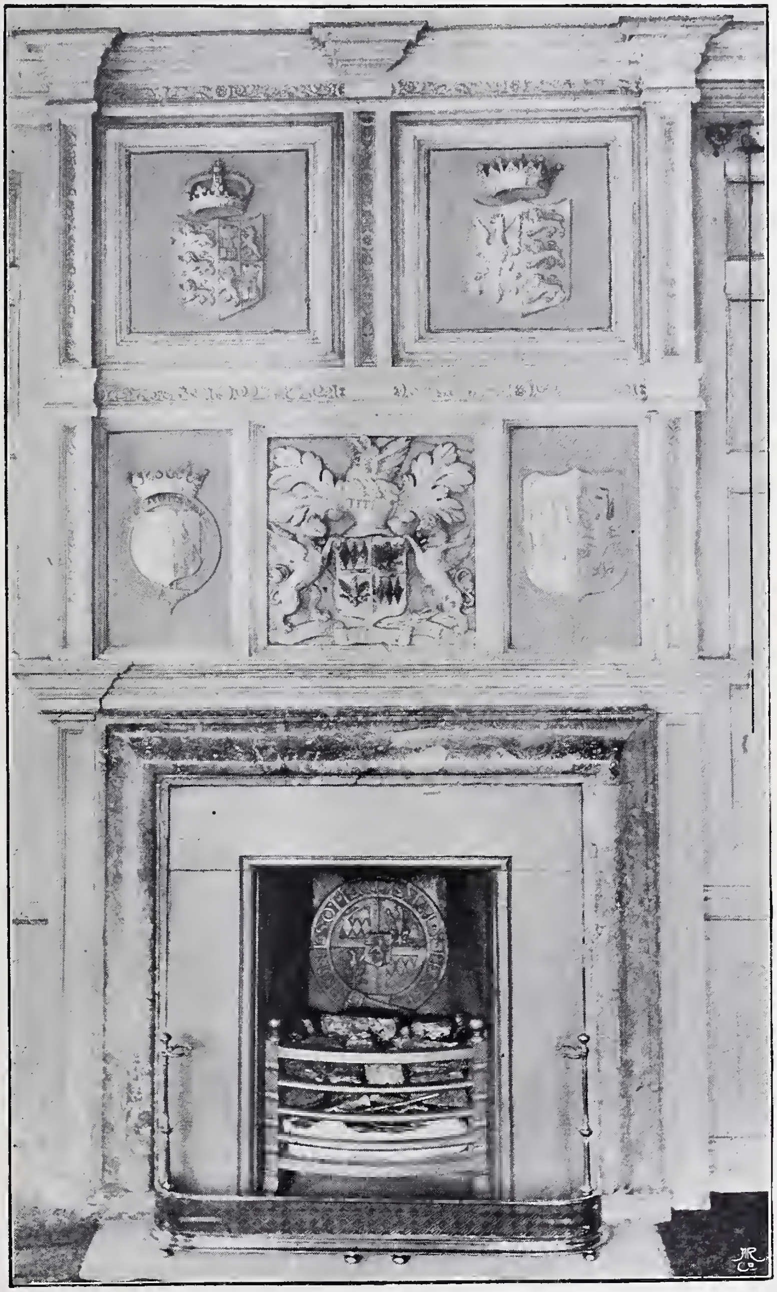


FIG. 2.—Chimney-piece at Boughton House, with arms of Montagu and some of its alliances. The fire-back bears the Montagu arms.

One of the laws as to the granting of arms laid down by Sir John Ferne in his *Blazon of Gentrie* should interest us in this room. It seems that while professors of the seven liberal arts were not unworthy of having arms granted to them, the followers of the seven mechanical sciences were quite outside the pale. As architecture was one of the mechanical sciences, our case, as mere architects at any rate, is hopeless, for Sir John Ferne is emphatic: "Although it bee true," he says, "which I erst sayde: (that mechanicall sciences, with their professors, be debarred the preheminence of Gentrye: which opinion, if anyone would overthwart, let him look for this, that my friende Barth, with his codes and textes, will easily confounde his rashnes and ignoraunce). Yet I have not denyed but that some such notable collaterall merite and worthiness may be in the mechanicall man, that he shall duely obtayne a coate-of-armes: But not by the meere practize of his mechanicall trade." Let us be thankful for the small mercies which the liberal-minded Sir John was prepared to vouchsafe.

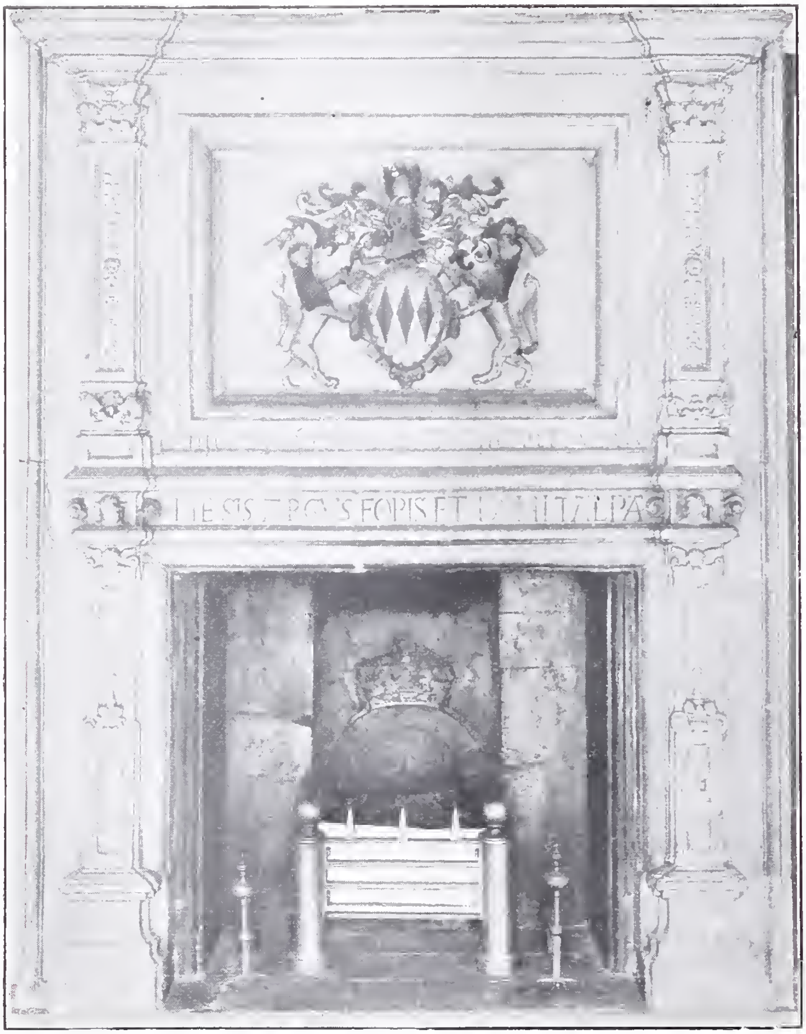


Fig. 3.—Chimney-piece from Boughton House, with the arms of Montagu. (From a photograph by Bedford Lemere.)

When the posthumous granting of arms to persons who could have had no concern with them is considered, we can realise how far heraldry had travelled from its original starting-point three centuries before. From being matters of daily practical use, armorial bearings had come to be what certain rudimentary organs of many animals are, a mere indication of particular ancestry: and so by implication a mark of gentility. Being no longer part of everybody's daily life, it had become necessary to write the history and science of them, and, like other things in this world, from being matters of popular knowledge they came at length to be mysteries in the keeping of a kind of priesthood. The next inevitable stage was crystallisation. Rules were laid down, which shared the fate of many other rules if blindly adhered to: instead of being guides they became goals; instead of fostering individuality they produced monotony. The origin of armorial bearings being forgotten, the application of them tended to become illogical, and heraldry gradually declined both as a science and as a decorative art. The drawing became too realistic, and lost its proper conventional treatment; the bearings were depicted in the round instead of the flat. Draughtsmen were too well instructed in general matters, they had got to know what live lions really looked like; they were familiar with many animals and things which their ancestors knew chiefly by conjecture, and they utilised their knowledge to the detriment of their design.

The eighteenth-century squires gradually fell out of their forefathers' habit of adorning their houses with heraldry. Shenstone says in one of his essays, "Antiquity of family and distinctions of gentry have, perhaps, less weight in this age than they had ever before; the bent dexter or sinister, the chief, the canton, or the cheveron, are greatly out of date. The heralds are at length discovered to have no legal authority." Heraldry, indeed, became little more than a matter of book-plates, and even these were threatened with extinction, since arms were granted which defied depiction, such as those mentioned by Boutell, in which one of the thirteen charges was "a book duly clasped and ornamented, having on it a silver penny, upon which is written the Lord's Prayer."

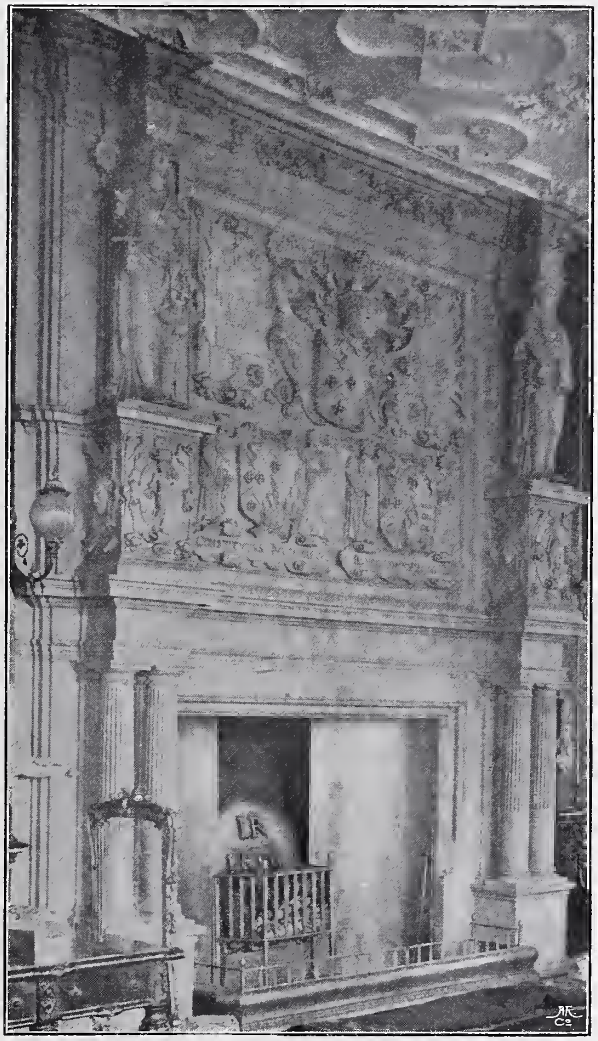


Fig. 4.—Chimney-piece at Barlborough Hall, with arms of John Rodes, and (below) his arms impaling those of his two wives. The names and effigies of the owners are put against their respective arms. Date 1584.

(From a photograph by Colonel Gale.)

Another cause of deterioration in heraldic drawing arose directly from the change in the object of heraldry, namely, its becoming an indication of ancient descent. For one of the marks of ancient descent, and of great alliances, was to have many quarters to one's shield. If a man married an heiress his son inherited not only his mother's possessions but also her paternal arms. This multiplication of quarterings not only tended to make the shield look fussy and confused, but it so reduced the scale of each coat as to render spirited drawing impossible. There is in the hall at Fawsley, in Northamptonshire, an achievement of the Knightleys, containing 334 quarters, which is 330 too many for decorative effect.

But although the heraldry of the Renaissance contained within itself the germs of its own decay, it flourished vigorously enough. The designers of the time loved to avail themselves of it in all materials and in all connections. There is hardly a building of the period of Elizabeth and James that has not its owner's arms carved conspicuously upon it. The joiner and the plasterer were not behind the mason in using such excellent decorative *motifs* as heraldry afforded. Hundreds of elaborate chimney-pieces exhibited as the focus of their splendour the owner's arms. The intricacies of a hundred ceilings encompassed the same proud object. Scores of windows glowed with the colours of his achievement. As he gazed into the fire the flames lit up the same inspiring theme on the fireback, and the embers warmed at once his feet and his arms. The book which lay upon his knee bore on its leather cover still the same device, stamped in gold, or else inside, printed on a book-plate. The family animal surveyed mankind from the lofty pinnacles of the roof, or mounted guard on the newels of the staircase, or stood rampant in the ascending panels of its balustrade. In the payments on account of the royal houses in the sixteenth century a charge is often made for carving the "king's beasts." To all uses, great and small, was the device of the family put, even to the most insignificant, as at Farleigh Castle, where the garb (or sheaf) and sickles of the Hungerfords form the escutcheon of a lock. But in no connection was heraldry more freely used than in tombs and monuments to the dead, and we can imagine how much it must have mitigated the grief at the loss of a parent to be able to display all his heraldic magnificence over his grave.

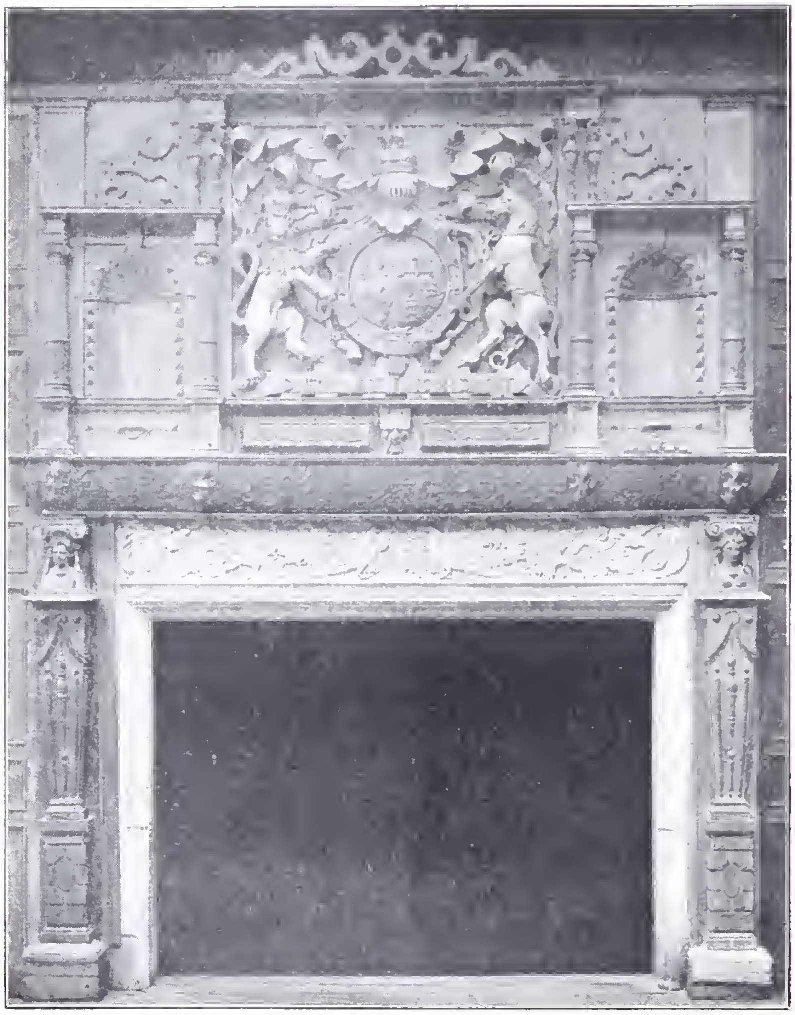


Fig. 5.—Chimney-piece from Bromley Palace (now at South Kensington) with Royal arms. Time of James I., the arms of Scotland appearing in the second quarter.

Apart altogether from its decorative aspect, heraldry is most useful in historical research. Many a clue is afforded by the presence of a shield or a badge in a building which has outlived its story, and many a sidelight is thrown on the process of research. Take, for instance, Rushton Hall. There we find two gables alike in design, but bearing different shields, one with the trefoils of Tresham, the other with the cocks of Cokayne. How much does that difference imply! It means the downfall of the first family through complicity in Gunpowder Plot, and the succession of the second to the house and estate; and not only its succession, but its taking up and continuing the enlargement of the house in the old spirit and on the old lines of design. Or, again, take the ninety shields on Rothwell Market-house, all bearing the arms of families connected with the county. Why do some of those shields appear? It is impossible to say; but the fact of their being there points to a connection with the county yet to be discovered. And how many of those ninety coats are still borne by residents in the county? About half-a-dozen. The shields on Rothwell Market-house bring us to another point, and that is the drawing of the charges; for there it is done with such vigour and grace as to be a pleasure to look at, apart altogether from the heraldic signification. The animals are fierce and wild and strong, and look as if they had lived in the forest; and not like their descendants of a century or two later, which had become tamed and docile, and fit to lie on the hearthrug. That was in the time of the Georges, when rules and regulations had broken their spirit.

There are, of course, certain rules and regulations which have to be observed, but, within their limits, the more freedom the better; in fact, freedom is essential to decorative effect. For instance, the rule was that a bend must occupy one-fifth of the field. But the width of the bend ought to depend upon the space occupied by the charges on either side of it, and on the fact of its being itself charged or not, always bearing in mind that it must not be so narrow as to become a

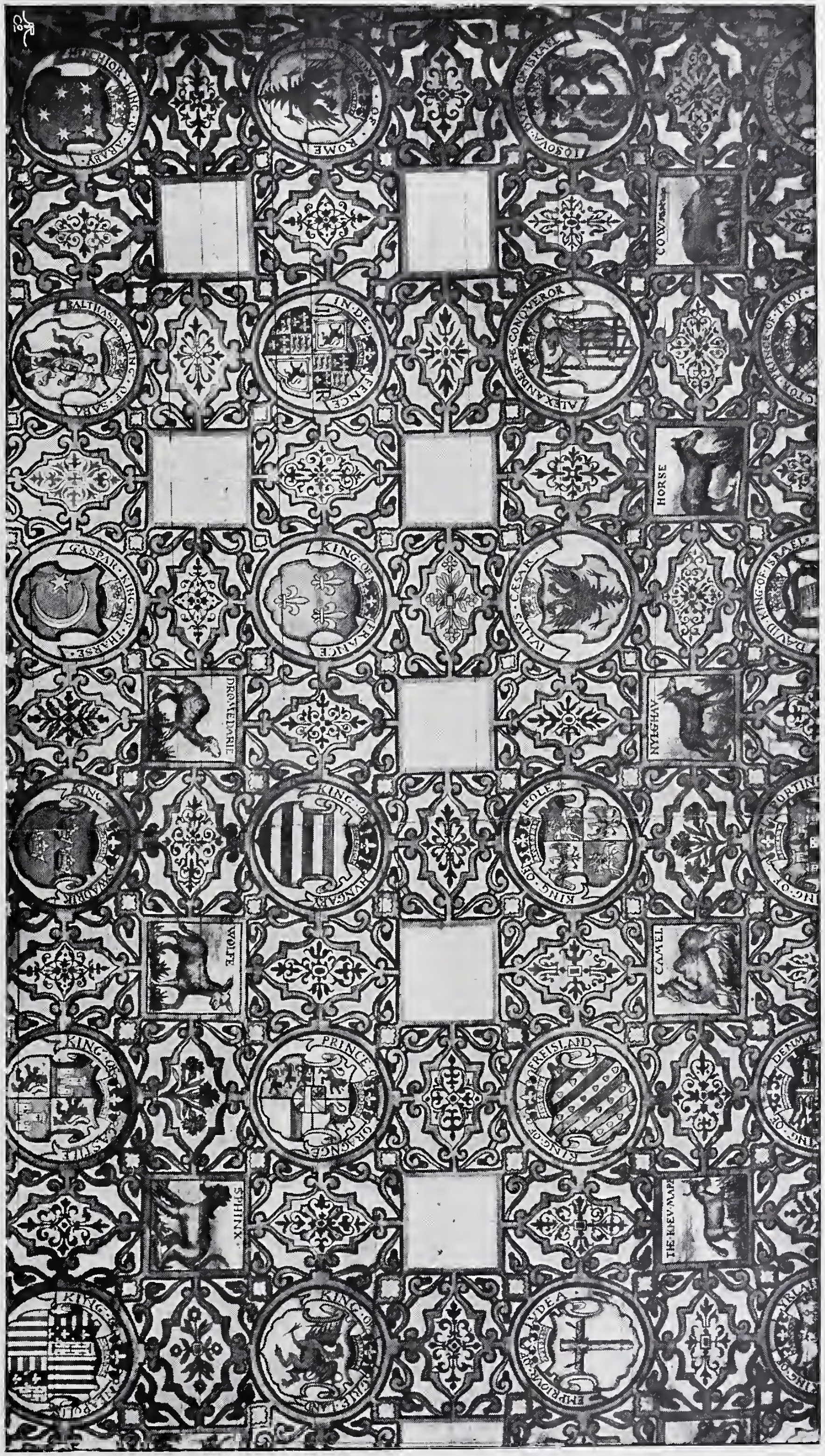


Fig. 6.—Ceiling at Earlshall, Fife. With the arms of "Empriour of Judea," "Julius Cæsar," "Alexander the Conqueror," "Joshua Duke of Israel," etc. Date 1620.
(From a photograph lent by Mr. R. M. R. Mackenzie.)

bendlet. Another rule was that the chief must occupy one-third of the field; but here also the depth must depend upon the charges in the field. So, too, in the drawing of charges themselves. The characteristic charge that distinguishes the coat must be preserved, but within that limit it may be treated according to the taste of the designer. For instance, a lion rampant must always be made a lion rampant, but there is no need to have his head and his four legs in precisely the same relation to each other, nor need his tail always take the same curves. These things may be varied according to the space to be filled. Broadly speaking, the treatment may be as free as possible, so long as no new idea is introduced. Thus the lion rampant is one idea; the lion salient (or about to spring) is another. The lion rampant always looks in the direction in which he is going; but if you change the idea and make him look towards the spectator, he becomes a lion rampant gardant. A lion rampant, if he has to fill a tall narrow space, will be thin and long and very upright; if he has to fill a comparatively square space, he will be thin, it is true, but less thin, shorter, and not so perpendicular in attitude; but in both cases he will be rampant.

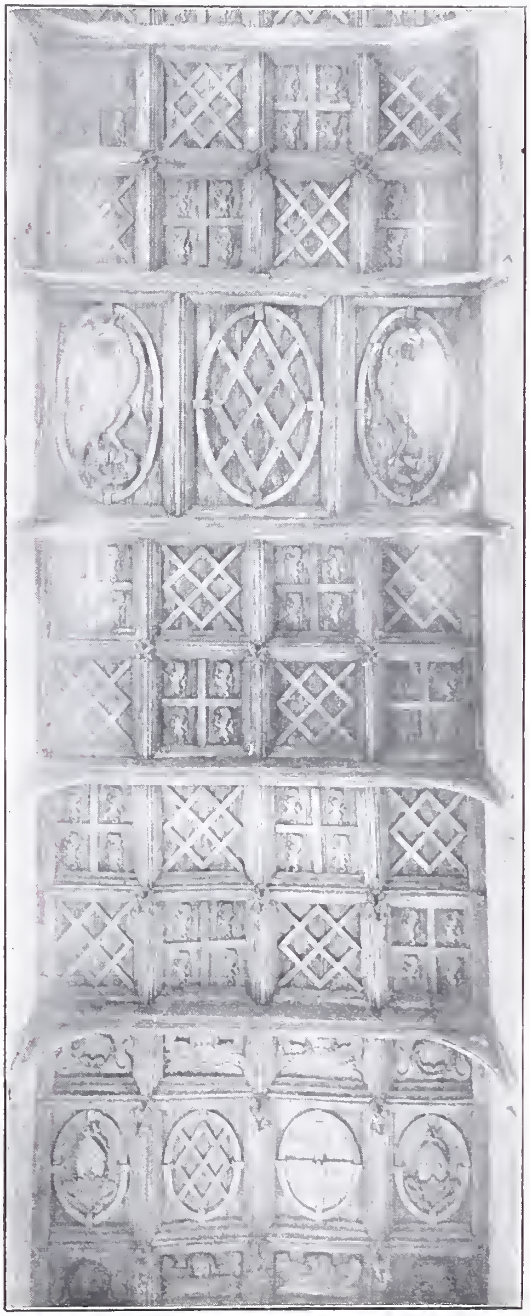


FIG. 7.—Part of ceiling of the Chapel at the Bishop's Palace, Auckland, erected 1660–70. The panels contain, for the most part, the arms of Bishop Cosins alternately with those of the See of Durham.

(From a photograph by Mr. H. Kilburn.)

We heard from Mr. St. John Hope at the last meeting what were the usual adjuncts of the shield, namely, the helm resting on its upper edge, the crest and wreath on the helm, and the mantling forming, as it were, a background and frame. The treatment of all these should be founded on logic at any rate, if not strictly logical: that is to say, the crest and wreath must accompany the helmet, and not float in mid-air just above the shield. The mantling must be treated as a kind of cloth puggarree, with two sides, which usually are of different colours. Subject to this fundamental idea, its treatment may be what you like, its folds and curves and cuts may be arranged purely for effect, but it is obvious that its two faces being of different colours is a most important factor in the scheme of design. When supporters are introduced they ought to stand upon something, and that something should be more substantial than the edge of the ribbon which displays the motto. They should also look as though they were actually supporting the shield and helm, and doing it in a resolute and respectful manner. They ought not to be depicted, as the lion and unicorn sometimes are, as though they were lying down and taking a rest.

If the heraldry of the sixteenth and even seventeenth century is compared with that of the eighteenth or early nineteenth, it will be at once apparent how the draughtsmanship deteriorated, and how commonplace the drawing became. Under such treatment the poetry evaporated, and an additional excuse was furnished for the contempt into which the whole subject fell.

Heraldic drawing is not an easy matter: if it is to be revived, it must be done not by a mere copying of old examples and a departed style. The designer must be a skilful draughtsman, combining vigour of pencil with a strong feeling for anatomy; so that if an animal has to be drawn its particular characteristics may be presented in a truthful though conventional way, with as few strokes as possible. The designer, too, must steep himself in the subject, so that he has its rationale at his fingers' ends—not necessarily a long or tedious thing to do. But when he is properly equipped he will find few fields of design more attractive, or lending themselves in a greater degree to pure enjoyment of making lines express beauty and fancy and force.

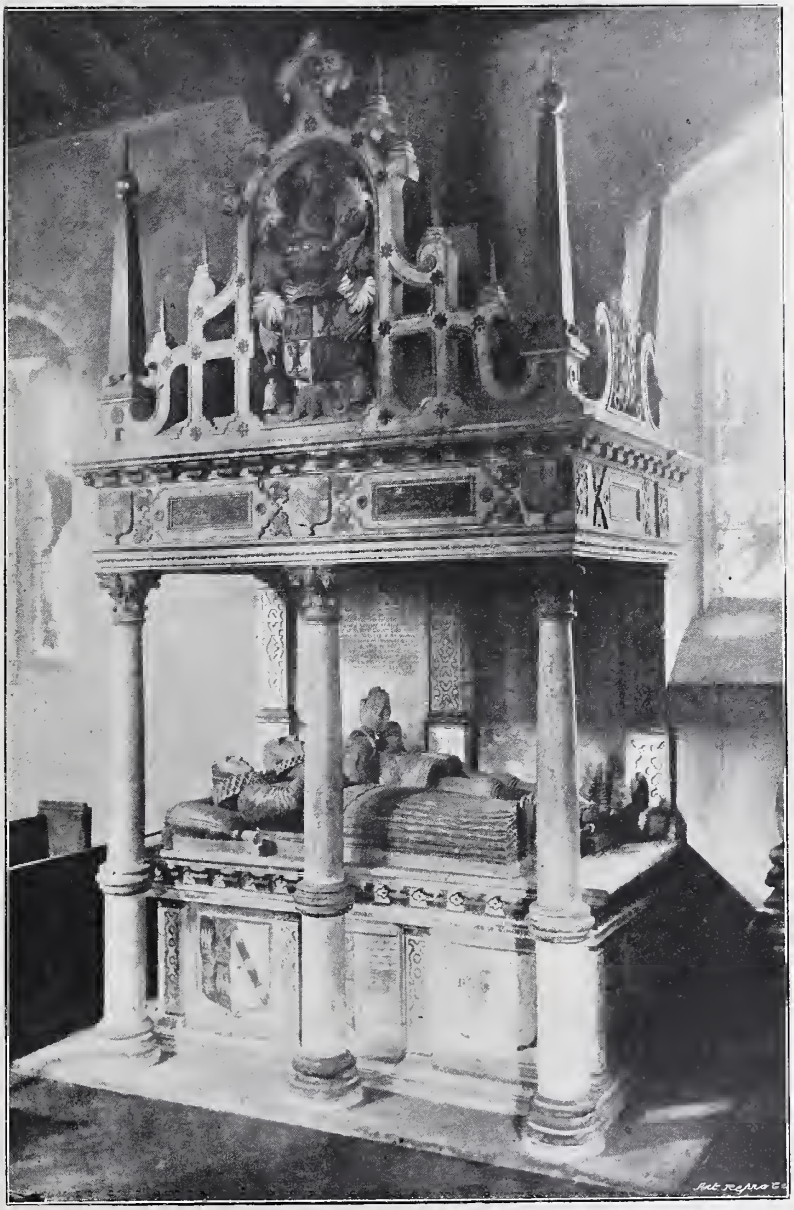


FIG. 8.—Montagu Tomb in Weekley Church.

THE ILLUSTRATIONS.

The first half of the views showed the application of heraldry to buildings and tombs; the remainder showed it in drawings and prints. The buildings shown were the gateway at Holdenby, with Sir Christopher Hatton's arms in a circle; the entrance to Blickling Hall, with arms over the door, and the family animal on finials and on pedestals at either side of the approach; a doorway at Skipton Castle, with a good shield over it; a doorway in the court at Kirby Hall, with badges of the Staffords in the

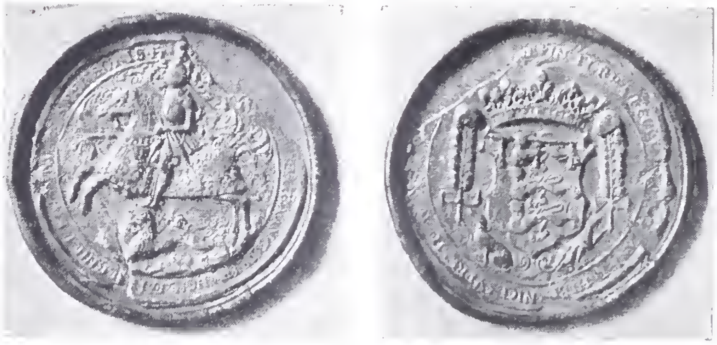


Fig. 9.—Seal of the Principality of Wales, *temp.* Edward VI.

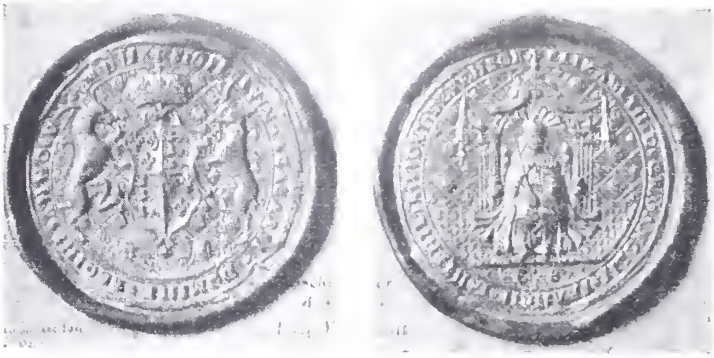


Fig. 10.—Seal of the Exchequer of Pleas, *temp.* Elizabeth.

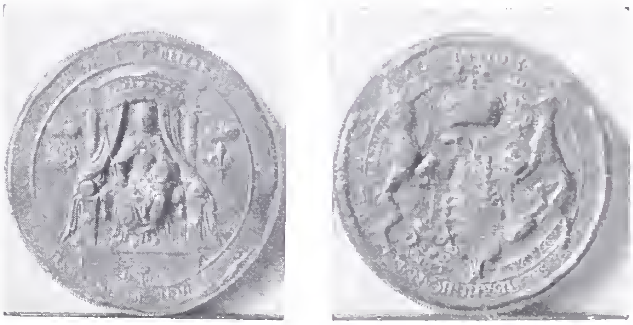


Fig. 11.—Seal of the Common Pleas, *temp.* Elizabeth, 1560.

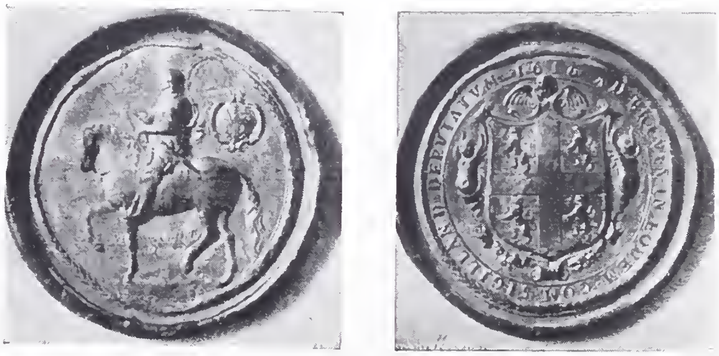


Fig. 12.—Seal of the County Palatine of Durham, *temp.* Oliver Cromwell.

frieze; the clock-tower at Burghley House, with the shield forming the face of the clock and the supporters rearing against the tower; and Rothwell Market-house, with its fine series of shields in the main frieze and in the spandrels of the arches, numbering ninety in all.

Of interiors there were some fine chimney-pieces from Charlton House, Wilts; Castle Ashby, and Lumley Castle; a general view of the splendid dining-room at Gilling Castle and a detail of the chimney-piece. This room is one of the finest specimens left of heraldic decoration; the windows are filled with shields, showing the alliances of the Fairfax, Constable, and Stapleton families; while a deep plaster frieze exhibits the arms of the Yorkshire families, according to the Wapentakes into which the county was divided. Then came two wood chimney-pieces from Boughton House, and a sketch showing the vigorous modelling of one of the charges, an eagle displayed; after which followed three views of the remarkable coloured ceiling of the gallery at Earlshall in Fife, divided into a vast number of panels filled with shields of arms or allegorical figures. Among the latter are "Charitas," "Temperantia," "Simi-Wlpa," "Greuhund," "Bore," "Sphinx," &c.; and among the arms those of "Empriour of Judea," "King of Friesland," "King of Pole," "Julius Cæsar," "Alexander the Conqueror," "Joshua, Duke of Israel," "David, King of Israel," &c., together with the arms of many Scottish families. This highly interesting ceiling has recently been rescued from destruction and made good, strictly on the lines remaining of the original work, by the laird, Mr. Mackenzie. It was put up by Sir William Bruce in 1620, as indicated by his initials and those of his wife with the date.

The next division comprised a number of tombs—from Eton, Weekley (the Montagus'), Stamford (Lord Burghley's), Well Church, and Cobham, with one of the little "weepers" at large in a charming heraldic surcoat; and several beautiful panels from tombs in Westminster Abbey, lent by Mr. St. John Hope. A very fine altar-tomb of unusual type must be mentioned here, though it was not illustrated. It is that of Sir Thomas Gresham, in St. Helen's, Bishopsgate. It is an altar-tomb, with a finely moulded and carved base and bed-mould; the body of the tomb, instead of being panelled, as was almost invariably the case, consists of upright marble sides fluted in narrow widths, on which, in the middle of each side, is placed a boldly carved cartouche with shield, helm, and mantling. The type is probably unique in England, and the workmanship is of the very best. There are other fine tombs in the same church.

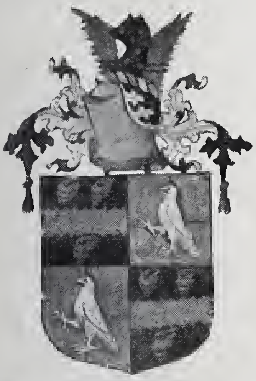


FIG. 13.—From a book at the College of Arms. The Shelley coat with shells in first and fourth quarters.

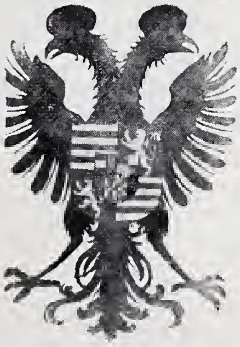


FIG. 14.—From a German book in the College of Arms. The arms of Hungary on a double-headed eagle, displayed.

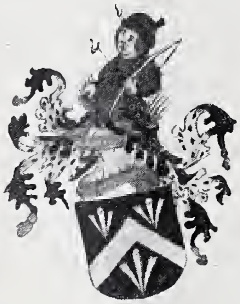


FIG. 15.

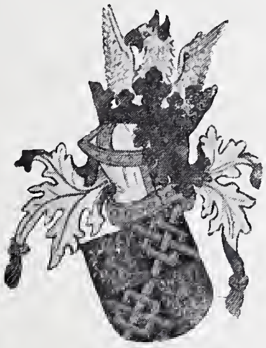


FIG. 16.

From a book at the College of Arms, showing treatment of helm and crest, and the mantling (two tinctures) in early stage of development; also showing charges freely treated. No. 15 is Forster (Forester) with arrow-heads as charges and a forester as crest. No. 16 is Fitz-Alan quartering Maltravers.

After the tombs came a spirited group of the Royal Arms from a wood chimney-piece, once in Bromley Palace, now at South Kensington; a panel with the arms of a City Company; and then some of the stalls from King's College Chapel, Cambridge, with finely carved "achievements" of Charles I.'s time. Two examples of shields in spandrels of arches followed, and then one of heraldic glazing.

After these came the beautiful seals illustrated in the present issue.

The last division consisted chiefly of drawings and prints. It comprised a number of drawings from the College of Arms, the work of heralds of the sixteenth century, among others the "canting" coat of the Shelleys, with its cockle-shells —and *àpropos* of this, reference was made to a German family called Eselen, who bore an ass for their arms. The illustrations from the College of Arms chiefly went to show the vigour and freedom of the old draughtsmen—how they made an unpromising object, such as a wheat-ear, decorative, and varied the attitudes of their animals according to the space to be filled, going even to the length of making three cranes to stand upright on the shield, and to fly with legs stretched behind them on the horizontal standard. Two instances of a lion rampant further illustrated this point (see above).

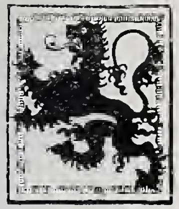


FIG. 17.—A lion rampant, in a nearly square compartment. From Gilling Castle.

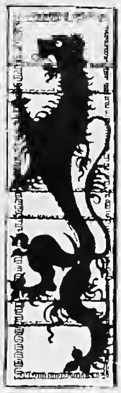


FIG. 18.—A lion rampant, in an upright compartment. From Gilling Castle.

This series was followed by Sir Christopher Hatton's arms from a drawing, in which the development in size and intricacy of the mantling was illustrated; the title-page of a book with Cardinal Wolsey's arms; a curious heraldic drawing from Gerard Leigh's *Accedence of Armorie*, 1597; a woodcut of the arms of Earl Spencer from Gwillim's *Display of Heraldrie*, 1660; the arms of the City of London, from *London's Armory*, 1677; a sketch of a shield of 1705; and an instance of a family animal filling a panel in the balustrade of a staircase. A particularly good example of late heraldic decoration is the panelled ceiling of the chapel in the Bishop's Palace, Auckland [p. 272], put up by Bishop Cosins between 1660 and 1670, in which most of the panels are filled alternately with the Bishop's arms and those of the See of Durham. The whole series concluded with four examples of unusually spirited drawing of shields and supporters from a collection of sketches made about 1812 for "heraldic and ornamental shields for carriage work" at South Kensington.

Most of the lantern slides were made specially for the Paper, but about a score were lent by the kindness of Mr. St. John Hope, the Rev. Walter Marshall, and Mr. J. P. Gibson.

Mr. Everard Green, Rouge Dragon, lent a beautiful heraldic roll, and a grant of arms; and Mr. Purdon Clarke lent from South Kensington several carved wood panels, chiefly French work, and a photograph of heraldic tapestry.

DISCUSSION OF MR. GOTCH'S PAPER.

The President, Professor Aitchison, A.R.A., in the Chair.

Mr. J. M. BRYDON [*F.*] proposed a vote of thanks to Mr. Gotch for his most excellent and instructive Paper, on a subject in which architects were so deeply interested. The title was slightly changed from Mr. St. John Hope's Paper, being "The Heraldry of the Renaissance in England," instead of "Heraldry as applied to Mediæval Architecture." As an architect he knew something of heraldry as applied to architecture, but very little about it scientifically. To-night they had had their attention directed to heraldry, not only in the method of it, but in the sequence in which it should be applied in a decorative sense. Mr. Gotch had told them some very interesting things connected with heraldry, and he, or rather Sir John Ferne, had settled the vexed question as to whether architecture was a profession or an art. Now it seemed to be neither; it was a mechanical business, and they were all mechanics. He presumed the "mechanic" of that day signified what "craftsman" did in this, and he was quite willing to accept Sir John's dictum and be a "craftsman." As "craftsmen," heraldry appealed to them in two aspects, the historical and the decorative. It was evident from many of the shields shown on the screen that it would be almost impossible to decipher the history of places in which they were emblazoned, but for the heraldry on them. The decorative side of the question appealed to them most strongly, and the method in which Mr. Gotch had shown how shields ought to be filled by quarterings, and how the supporters ought to stand on something substantial, was of great value and use to architects, who in their practice were constantly using arms in their buildings, either in carving or in stained glass. There was one thing that struck him in the magnificent decorative ceiling at Earlshall in Fifeshire. If he was not mistaken, this ceiling was done by Sir William Bruce, who was architect to Charles I., and who carried out the more modern part of Holyrood Palace. He was a great favourite with the king, and it was interesting to know that that ceiling was probably an architect's work. It was due to him that the present county of Kinross was turned into a county and detached from Fifeshire. The same architect, he believed, built a palace or house which he hoped the king would occupy, but, unfortunately, he did not live to do so. In colour the ceiling was very fine, and he was glad to hear that during its restoration it had been taken such great care of, and that only the old work that they were perfectly sure of had been restored, and that they had not invented anything new.

Mr. W. H. ST. JOHN HOPE, M.A., in seconding the vote of thanks, said he had listened with the greatest possible satisfaction to Mr. Gotch's Paper, and viewed with much pleasure the delightful series of illustrations. There were a number of points that might very well be taken to heart and borne in mind, especially by those who had the designing, and superintended the execution, of heraldic works generally. He quite agreed in the remarks made with regard to the rules, which had, if he might so say, brought heraldry into such disrepute, because, as Mr. Gotch had pointed out, those rules had served to reduce it to a crystallised condition, and so destroyed all its freedom, and the true art of heraldry seemed more or less to have disappeared. As to drawing from the round, it should be remembered that all ancient heraldry was at first simply painted in the flat, and when it began to assume the sculptured form, as in the early shields in Westminster Abbey, the charges were represented in very low relief. Touching quarterings, there could be no doubt that their multiplication was destructive of a great deal of the artistic beauty of heraldry. He supposed this multiplication arose principally through the practice of representing a quartered shield of pretence upon a shield that was already quartered. When these eight quarters were combined in one shield matters began to be complicated; and if the man who possessed such a shield married an heiress, his son in his turn might inherit further quarterings, and so the shield would go from bad to worse, and eventually reach the dreadful state of things represented by the shield at Fawsley, with its 334 quarterings—a truly appalling number. The value of heraldry in dating buildings could only be appreciated when some one had taken the trouble to work it out for himself. He exhibited a fortnight ago a lantern slide of the beautiful gateway of Kirkham Priory. In writing a Paper upon the Priory, it occurred to him that the heraldry on the gateway was arranged in some systematic way, and that if the clue to that were found one possibly might arrive at the date of its erection. He very soon ascertained, from an examination of the shields, that they represented alliances, and from those alliances it was easy enough to prove, or at any rate suggest with a strong show of probability, a date within a very few years of which the gateway was built. As Mr. Gotch had pointed out, to draw heraldry properly one must become soaked with heraldic art, and one of the best sources from which to acquire accurate knowledge was from seals. It was unfortunate that the places where seals were to be found were usually so difficult of access that it was almost impossible for any one to study them. There was a large collection at the British Museum, which might be studied after a fashion—that is to say, a ticket had to be written for every seal, and when a few hundred tickets had been written enough seals might be laid out upon the table to enable one to make useful comparisons and learn something from them. There ought to be a large collection, such as that which the Society of Antiquaries was fortunate in possessing, of casts of seals. They cost very little to make ; and were such a collection at South Kensington it would be possible to take drawer after drawer, and arrange the seals in any order desired, so long as they were restored to their proper places afterwards. Then those useful comparisons might be instituted from period to period, or from year to year, if one liked, and so the student would become soaked with heraldry in the manner suggested by Mr. Gotch.

Mr. H. HEATHCOTE STATHAM [*F.*] said he should like to join in the expression of thanks to Mr. Gotch, more particularly because he (Mr. Statham) knew nothing about the subject, and had therefore benefited all the more. He agreed that heraldry in a retrospective sense was a most valuable aid in studying the chronology of buildings. But at the present day it could only be regarded as a kind of pastime. The real use of it was gone. The original use of heraldry was to distinguish a man when his face was covered by a helmet, and so prevent his own friends knocking him on the head by mistake. Now it was a kind of picturesque and purely archæological way of forming a sign for one's identity in place of one's signature. He was not quite able to follow all the enthusiasm of the lovers of heraldry in regard to the drawing of some of the examples that had been shown. Some of the lions said to be so beautiful seemed to him to be more curious than beautiful. He had been rather struck with this, in regard to the fact that heraldic animals of the best kind had been conventional and not realistic ; that the species of those represented were very few in number ; and that if new coats-of-arms were to be drawn, and if animals were to be invented out of their own heads, there was a great deal of room for furnishing a large number of entirely new heraldic animals. The species was not exhausted at all. There seemed to be only three or four ; and a field existed for the youthful designer who took up heraldry for evolving some new forms as improvements or variations upon the orthodox griffins and lions. He should like to make a remark with regard to the first illustration shown, the gateway of Holdenby Abbey, in connection with the title of the last Paper, "Heraldry in relation to Architecture." Notice the design of that gateway: the masonry in the upper part was a preparation for a place to put the heraldic coat-of-arms in. There was a great circle at the top which was of no use except to display the heraldry. It struck him in some of the other cases that the architecture had no particular reference to the display of the heraldry. The coat-of-arms was put on wherever it was found convenient. In the Holdenby Abbey gate there was a real sense of the architectural design being affected by the desire to display the coat-of-arms. If people intended to use heraldic devices as part of architectural ornament, that was one point to bear in mind, that the architectural effect was much greater when it appeared that the architecture and the heraldry had been thought out together, and that the architectural design actually provided for the heraldry from the first.

Mr. J. ALFRED GOTCH [*F.*], F.S.A., responding to the vote of thanks, referred to Mr. Statham's remarks about heraldic animals. If heraldry was to be continued, it seemed that the line upon which the modern herald must work must be to take the modern animal and conventionalise him, not shutting his eyes to present-day knowledge, but taking the animal, and making him conventional very much in the same way in which one of the slides showed the dog, which was a very modern dog, but treated in a conventional and vigorous manner. With regard to purely allegorical animals, such as the griffin or the dragon, there was, of course, no modern representation of these, and no modern specimens to be found in a museum, so one could only depend upon one's own invention. He should like to take the opportunity of expressing his thanks to Mr. St. John Hope, to whom he was indebted for many valuable suggestions, and who had kindly placed at his disposal some beautiful seals in the collection of the Society of Antiquaries.

⁂ It is satisfactory to state that the Heraldry Papers proved attractive on both evenings to large and appreciative audiences. Many well-known experts, including officials of the Heralds' College, were among the visitors.

9, Conduit Street, London, W., 1*st April* 1897.

CHRONICLE.

The late Lord Leighton's House.

The following communication, of which a translation is appended below,* has been received from Monsieur Auguste Choisy [*Hon. Corr. M.*], Chief Engineer in the Service des Ponts et Chaussées, Paris :—

" L'an dernier, au moment où l'Angleterre et le monde de l'art venaient de perdre votre grand peintre Lord Leighton, ses admirateurs et ses amis pensèrent qu'un hommage à rendre à sa mémoire serait de convertir en monument national la maison qu'il habita. Cet hommage est sur le point de lui être rendu.

" Par un noble mouvement où j'admire un des traits du caractère anglais, les sœurs de Lord Leighton ont spontanément offert à la nation la maison de leur illustre frère. C'était se montrer les dignes héritières du grand homme chez qui la générosité égalait le talent. Ce qui reste à faire est peu en face d'un tel sacrifice ; espérons que l'œuvre commencée par une libéralité au-dessus de tout éloge s'achèvera par un commun effort de tous ceux qui s'intéressent à l'art.

" Il ne s'agit pas seulement de conserver à la vénération des artistes une relique du grand homme, c'est une œuvre d'art de premier ordre, qu'il importe de léguer à l'instruction des jeunes générations. La couleur, dont l'association à l'architecture est partout si délicate, présente sous un ciel brumeux des difficultés qui paraissent insurmontables : l'éminent architecte qui préside aujourd'hui le Royal Institute of British Architects a montré, dans les décorations de la maison qu'il éleva pour son illustre ami, ce qu'on peut obtenir d'effets imprévus et puissants lorsqu'on sait graduer la lumière, ménager les oppositions, préparer les contrastes. Que l'on parcoure les salles de cette magique demeure : de l'une à l'autre les jeux de lumière changent.

" A l'entrée se présente un vestibule modérément éclairé et à tonalité un peu sourde ; la lumière éteinte de cette première salle dispose l'œil à l'impression d'éclat d'une cour vitrée où se développe sous le grand jour d'un ciel ouvert un escalier monumental, en même temps qu'une riche tenture d'émaux réhaussée d'un appoint d'or resplendit à la surface des murs. Sur cette cour s'ouvre un nouveau vestibule, où les émaux prennent un surcroît de richesse et se combinent aux colorations profondes des marbres. Ce vestibule, à dessein obscur, conduit par la plus habile des transi-

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* [Translation.]

Last year, at the time when England and the world of art had just lost your great painter Lord Leighton, his admirers and friends thought it would be rendering an homage to his memory to turn his house into a national monument. This homage is on the point of being rendered to him. By a noble impulse, in which I admire the features of the English character, the sisters of Lord Leighton have spontaneously offered to the nation the house of their illustrious brother. This showed them to be worthy inheritors of the great man, whose generosity equalled his talent. That which remains to be done is small in comparison to such a sacrifice. Let us hope that a work begun by a liberality beyond all praise will be completed by the united efforts of those who are interested in art. The question is not only to preserve a relic of the great man for the veneration of artists, but a work of art of the first rank, which ought to be bequeathed for the instruction of new generations. The association of colour with architecture is everywhere a delicate task, and presents under a misty sky difficulties that seem insurmountable. The eminent architect who now presides over the Royal Institute of British Architects has shown in the decoration of the house he built for his illustrious friend what unexpected and powerful effects can be produced when one knows how to temper the light, to husband oppositions, and to arrange contrasts. In passing through this magical abode the play of light changes in each hall. At the entrance a vestibule presents itself moderately lit, and of a dullish tone. The dim light of this first hall disposes the eye to appreciate the brilliancy of a glazed court enjoying the full light of the sky, under which a monumental staircase develops itself, at the same time that a rich covering of enamelled tiles, enhanced by a touch of gold, shines on the walls. Another corridor opens from this court, where enamelled tiles, in combination with the deep colouring of marbles, give an increase of richness. This vestibule, with its gold ceiling, is intentionally dim, and leads by the most skilful transition into the Arab Hall, a very sanctuary of colour, where one feels transported into the midst of the splendours of Asiatic art. The wall decorations are composed of the masterpieces of old Arabian pottery ; gold, skilfully disposed, adds its warm reflections to the play of colour on the tiles. A few rays of sunshine, filtered through the lattices, illuminate these marvels. Bathed in this twilight the colours vibrate with an unexpected vigour, and produce the most delicious harmony. The impression they convey is the same that one feels on entering the palatine chapel of Palermo. This beautiful hall, freely inspired by La Zisa of Palermo, is at once a most precious museum of tiles, lattices, &c., collected by Lord Leighton himself during his travels in the East, and took him fifteen years to complete ; it forms a summary of his tastes, and makes a part of his history, which is the history of art. It should remain as a model of architectural polychromy where even the most accomplished decorators may come to drink new inspiration and precious lessons. Let us hope that a house where so many marvels and so much instruction are combined may shortly be counted among the number of your national monuments, both from its title as a work of art, and as a keepsake ; for it is a monument of which the country of Lord Leighton has a double right to be proud.—Auguste Choisy [*Hon. Corr. M.*].

tions à une salle, véritable sanctuaire de la couleur, où l'on se sent décidément transporté au milieu des splendeurs de l'art asiatique. Les décorations murales sont des chefs-d'œuvre de la vieille céramique arabe; l'or, discrètement réparti, ajoute ses chauds reflets au chatoiement des faïences; à peine quelques rayons filtrant à travers des treillis éclairent ces merveilles. Baignés de cette lueur crépusculaire, les tons vibrent avec une vigueur inattendue et s'harmonisent dans la plus délicieuse harmonie; l'impression qu'ils éveillent est celle même que l'on éprouve lorsqu'on pénètre dans la chapelle Palatine de Palerme. Cette belle salle, librement inspirée de la Zisa de Palerme, est en même temps un musée des plus précieux. Les faïences, les treillis ont été recueillis par Lord Leighton lui-même pendant un séjour de quinze années en Orient: c'est une résumé de ses goûts, elle fait partie de son histoire, c'est-à-dire de l'histoire de l'art, et doit rester comme un modèle de polychromie architecturale où les décorateurs même les plus accomplis viendront puiser des inspirations neuves et de précieuses leçons.

"Espérons que la maison où se réunissent tant de merveilles et tant d'enseignements va bientôt compter au nombre de vos édifices nationaux, à titre d'œuvre d'art et de souvenir. C'est un monument dont la patrie de Lord Leighton a doublement droit d'être fière.

(Sgd.) "A. Choisy
"*(Membre honoraire et correspondant du R.I.B.A.)*."

The Painters' Company Travelling Studentship.

Mr. J. D. Crace [*H.A.*] writes:—The Painters' Company were enabled last autumn by a gift from a Past Master, Mr. Rowland Plumbe [*F.*], to offer for competition among the students of all Art Institutions within the area of the London district a Travelling Studentship of the value of £50, for the Study in Italy of Coloured Decoration. It is disappointing to find that not a single architectural student of the Institute or the Association has responded to the invitation. The conditions only require two months' study abroad, and there are few young architects who would not find advantage in two months so spent.

The French Archæological Congress.

The sixty-fourth session of the Congrès Archéologique de France, under the direction of the Société Française d'Archéologie, is to be held this year at Nîmes (Gard) from the 18th to the 25th May. The programme of proceedings has been received from the Comte de Marsy, President of the Congress, together with a cordial invitation to members to assist at the meetings of the Congress, and join the various excursions to places of interest in the neighbourhood. The subscription, ten francs, admits subscribers to all the privileges of the Congress, including participation in the excursions and a complete report of the proceedings. The programme may be inspected in the Institute Library.

Additions to the Library.

Mr. Arthur Stratton [*A.*], Demonstrator of Architecture at the University College, Victoria University, Liverpool, who was the Architectural Association's prize essayist last year, and awarded the Silver Medal, has had his composition published in an edition limited to 200 copies for private circulation, and has forwarded a copy for the Reference Library. The title of the essay is *The Life, Work, and Influence of Sir Christopher Wren*, and makes, with its numerous illustrations, a not unimportant folio volume of considerable typographical excellence. The author is himself responsible for the majority of the illustrations, the others being reproduced from photographs; and the chapter-headings and tail-pieces by Mr. R. Anning Bell, designed especially for the work, add to its general attractiveness. Mr. Stratton has divided his subject under three headings, giving under the first a graphic sketch of the life of Wren, following this up with a chronological list of his works and a review of his theories and methods of work, and concluding with a brief notice of his successors, with a chronological list of their works. [Liverpool: D. Marples & Co.]

Mr. Harry Sirr [*A.*] has presented the Reference Library with copies of the works of his father, the late Henry Charles Sirr, M.A., of Lincoln's Inn, and late Deputy Queen's Advocate for the Southern Circuit in the Island of Ceylon, viz. *China and the Chinese: their Religion, Character, Customs, and Manufactures*, 2 vols. [London: W. S. Orr, 1849]; and *Ceylon and the Cingalese: their History, Government, and Religion* [London: Wm. Shoberl, 1850]. The donor, in making this presentation, points out that both works contain much matter of interest to architects, and refers to the fact that they are included in the Universal Catalogue of Books on Art issued by the Science and Art Department.

Mr. Alex. Koch, the editor, has presented *Academy Architecture and Architectural Review* 1896 (vol. x.), containing a selection of the architectural drawings exhibited at the Royal Academy, of sculptures exhibited both at the Academy and at the Salon, and an illustrated review of architectural subjects carried out or designed during the last few years in England and abroad. [London: "Academy Architecture," 58, Theobald's Road, W.C.]

The Journal of Hellenic Studies (vol. xvi., part ii.), received from the Society for the Promotion of Hellenic Studies, contains an account of the excavations at Abae and Hyampolis in Phocis, by V. W. Yorke; "Epigraphical Notes from Eastern Macedonia and Thrace," by J. Arthur R. Monro; a descriptive note, by Percy Gardner, on "A Stone Tripod at Oxford," presented to All Saints' College in 1771, of Corinth origin; and the second instalment of the

Paper on "Karian Sites and Inscriptions," by W. R. Paton and J. L. Myres, &c.

Der Formenschatz (parts i. and ii., 1897) have been received, through Messrs. Williams & Norgate, from the publisher [Munich: G. Hirth]. These two parts contain many reproductions of general artistic interest (including an etching of Rembrandt), but little of special appeal to architects.

The plates of the first edition of Mr. Penrose's *Athenian Architecture* have been procured for the Loan Collection, and will be shortly available to borrowers. Two copies of Professor Kerr's *A Gentleman's House* have been transferred from the Reference to the Loan Library, in order to meet the demands of borrowers (a third copy being still available for reference); and two copies of the *Transactions* of the Institute for 1842, containing Professor Willis's Paper on the "Construction of the Vaults of the Middle Ages," have also been added to the same department. It should also be mentioned that the list of periodicals received by the Institute has been increased by the addition of *The Studio*, which may be found on the Reading-room table.

Books received for Review.

Plastering, Plain and Decorative: A Practical Treatise on the Art and Craft of Plastering and Modelling, including full Descriptions of the various Tools, Materials, Processes, and Appliances employed, also of Moulded or "Fine" Concrete as used for Fireproof Stairs and Floors, Paving, Architectural Dressings, &c. Together with an account of Historical Plastering in England, Scotland, and Ireland, accompanied by numerous examples. By William Millar, Plasterer and Modeller. With 52 full-page plates, and 231 in the text. 4o. Lond. 1897. Price 18*s.* net. [B. T. Batsford, 94, High Holborn.]

A Practical Treatise upon Warming Buildings by Hot Water and upon Heat and Heating Appliances in General. With an inquiry respecting Ventilation, the cause and action of Draughts in Chimneys or Flues, and the laws relating to Combustion. By Chas. Hood, F.R.S., rewritten by Frederick Dye. Third New Edition, fully revised to date. 8o. Lond. and New York, 1897. [E. & F. N. Spon, Limited, 125, Strand.]

Beauty and Art. By Aldam Heaton. 8o. Lond. 1897. Price 6*s.* [Wm. Heinemann, 21, Bedford Street, W.C.]

REVIEWS. LIII.

(145)

THE PUBLIC HEALTH ACTS.

Lumley's Public Health Acts, annotated, with Appendices, containing the various Incorporated Statutes and Orders of the Local Government Board, &c. Fifth Edition. In 2 vols. By Alexander Macmorran, Q.C., M.A., and S. G. Lushington, M.A., B.C.L. Roy. 8o. Lond. 1896. Price £3. 7s. 6d. [Shaw & Sons, Fetter Lane, E.C.]

The latest edition of this voluminous work is published in two volumes, containing in all about 3,000 pages. The first volume starts with the usual table of contents, together with a table of statutes and a table of cases. The Public Health Act 1875, which takes up the greater part of the first volume, is no doubt familiar to most architects, but the several parts in reference to drainage, sewage, regulation of cellar dwellings, mortuaries, regulation of streets and buildings, &c., should constantly be borne in mind. Then follow thirteen additional Acts not immediately of interest to architects, until the 1888 Act as to buildings in streets is reached. This is a very short but important Act, affecting the bringing forward of buildings. Five other Acts follow, also of little special importance to architects. Then comes the Amendment Act of 1890, the sanitary and other provisions of which are contained in Part 3, which should also be familiar to all architects.

After the Housing of the Working Classes Act 1890, there follow the Allotments Rating Act 1891, and the Private Streets Act 1892. The new Acts not included in former editions commence with the Public Authorities Protection Act 1893, followed by the Housing of the Working Classes Act Amendment Act 1894, and the first volume concludes with the Local Government Act 1894, and the Stock Transfer Act 1895.

Volume ii. in an appendix contains over 130 Acts of Parliament the supervision of which is mostly in the hands of the Local Government Board. Amongst these are the following, of which an architect should have some knowledge, viz.—the Lands Clauses Consolidation Acts 1845–60, the Baths and Washhouses Acts 1846, 1847, and 1878, the Cemeteries Clauses Act 1847, the Disused Burial Grounds Act 1884, the Burial Acts 1857, 1860, 1862, the Public Health Act 1858, the Local Government Board Act 1871, the Factory and Workshops Acts 1878, 1882, 1883, 1891, 1895, the Electric Lighting Act and Rules 1888, the Arbitration Act 1889, the Technical Instruction Acts 1889, 1891, the Working Classes' Dwellings Act 1890, the Museums and Gymnasiums Act 1891, the Schools for Science and Art Act 1891, the Technical and Industrial Institutions Act 1892, the Public Libraries Acts 1892–3, the Isolation Hospitals Act 1893.

Appendix 2 also contains the Local Government Board Orders on the various subjects which are mostly contained in the Acts included in the first appendix. Amongst others are those on Dairies, Cowsheds, and Milkshops, Diseases and Hospitals, Electric Lighting, Housing of the Working Classes, &c.

Each volume contains a lucid and full index to the whole work, which is especially useful for rapid reference. The completeness of the work may be at once realised by perusing the table of statutes, from which it will be seen that there are references to about twelve hundred and fifty different Acts dealing in one way or other with sanitary matters. The same may be said of the cases decided, of which there are notes on more than six thousand.

The elaborate character of the work (occasioned by the almost endless array of special Acts, and the fulness of the notes and references) is well calculated to appal completely any man whose education has not been a legal one; and when an architect who also practises in the metropolis has to master, in addition to the above, such Acts as the London Building Act, the Metropolis Local Management Acts, and many others, and in addition to these the innumerable rules and by-laws connected therewith, it is not surprising that at times he is overwhelmed with the almost insurmountable difficulties connected with the labour and worry of making his working drawings in accordance with the laws of this over-legislated country. There can be no doubt, however, that these two volumes are a most valuable help to an architect in his practice, as it is most important and useful to have on one's table and in book form so many important Acts, to which reference can at once readily be made. The various statutes are most copiously and carefully annotated, and the commentary on the cases, as will be gathered from the above description, is exhaustive.. Moreover, the work is practically up to date.

Rowland Plumbe.

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CANTERBURY.

The Cathedral Church of Canterbury: a Description of its Fabric, and a Brief History of the Archiepiscopal See. Sm. 8o. Lond. 1896. *Price* 1s. 6*d*. [*George Bell & Sons, York Street, Covent Garden.*]

Let me begin by saying that the form, size, and type of this little book make it a convenient handbook, which is presumably the aim of the publishers. The Series of which it is to be a part bears the name of Mr. Gleeson White as editor. Either owing to modesty or discretion no author's name appears. I cannot but think that in spite of, or perhaps because of, the large amount of useful information which the volume contains, both editor and author (if there can be said to be an author) must blush whenever mention is made of *Murray's Handbook to the English Cathedrals*. I know that the work is not up to date (the volume containing "Canterbury" was published in 1861), but its arrangement, its archæological and historical facts, were so good that the compiler of this new handbook has found it convenient to borrow page after page, with merely the disguise of a little rearrangement of words or phrases. I am not sure that one need have been surprised or annoyed at this, had the usual course of acknowledgment been adopted. But there is a silently eloquent page. It is the first, and on it, under the word "Preface," are seven short lines: the rest is space—space excellently available for those courteous acknowledgments which are usually forthcoming where they are due. The Preface does indeed make acknowledgments, but they are to the illustrators, and we may fairly assume them to be bargained for. But I have found no allusion anywhere to *Murray*, whose plan of arrangement and whose material have been so largely "borrowed."

The photographs introduced in the work are, for the most part, such as are purchaseable on the spot, reduced in scale, many of them well enough reproduced. Of the sketches by Mr. W. T. Owen, previously published in another work, two or three are picturesque. Perhaps the best is the Corner of the Cloisters, facing p. 42; that also facing p. 36 is bright and explanatory. But most of them attempt no explanation—are purely "bits" from a sketch-book—and some are really bad, such as the first, Mercery Lane, where the light is scattered about far and near, and all sense of distance and subject lost.

Again, in the sketch facing p. 40 no one would suppose that this beautiful angle turret forms part of the gable-end shown beyond it, and which—false in drawing and strength of line—appears to be at least fifty feet away from it.

No, since comparison is forced on the reader, he will turn with pleasure to Jewitt's clear and expressive woodcuts in *Murray*, which are better than either the photographs or the sketches.

J. D. Crace.

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WELLS CATHEDRAL.

Monograph on the Cathedral Church of Wells. By Alfred A. Clarke. Illustrated from original drawings by the Author. 8vo. Lond. and Wells, 1896. *Price* 3s. 6*d*. [*Wells: Arthur G. Young. London: W. H. Smith & Son.*]

Much has already been written on the subject of the Cathedral Church of Saint Andrew at Wells; but no writer has as yet attempted a concise account of its history and structure, such as is contained in this "Monograph." Some idea of Mr. Clarke's achievement may be gathered from the fact that, in the space of seventy-eight by no means closely printed pages, he has contrived to conduct his readers easily and rapidly over a field which has been in part exploited by writers of such eminence as the late Professors Cockerell, Freeman, and Willis, and, in more recent times, by Canon Church.

"This Monograph," the introduction informs us, "was originally written for the guidance of a former verger of the Cathedral; it has now been in part re-written with additional notes." It is, to say the least, a pity that the volume, which has evidently been produced at much cost, should contain some gross inaccuracies as to fact, and many quite inexcusable faults in elementary grammar.

If it be true, as some one has said, that "a thoroughpaced antiquary not only remembers what others have thought proper to forget, but also forgets what others think proper to remember," then Mr. Clarke has exhibited considerable antiquarian dexterity. For example (page 25), Mr. Clarke says: "The West Front was the work of an English artist living at the same time as Nicolo Pisano in Italy. The work was completed about two years after the birth of Cimabue." Now these words are taken directly from Cockerell's *Iconography of Wells Cathedral*, where they appear in a statement by John Flaxman, R.A., whose dates Professor Cockerell corrects in the very next paragraph; but Mr. Clarke incorporates Flaxman's error in his work without correction and without inverted commas. Again, in following the author of *Architectural Parallels* by ascribing "the nave until you come to the break in the masonry in the fifth bay (eastwards)" to the time of Bishop Robert (1136-1166 A.D.), Mr. Clarke ignores the opinion, based on careful examination of Professors Freeman and Willis and most modern writers, that the whole of the nave was rebuilt under Bishop Jocelin (1206-1242 A.D.).

Sometimes the author's righteous indignation at some act of vandalism leads him, unconsciously no doubt, into obscurity, as when in speaking of Bishop Beckington's Chantry Chapel, "unwisely removed by a restoring architect from its original position," he says: "There is a wealth of amazing beauty and delicacy in the architectural detail of this chapel in what has been called the most florid style of decorated architecture. The whole of it is illuminated with colour and with gilding. As it stands now, it has no meaning whatever, except that of a standing reproach to all concerned in its removal. Yet it cannot be divested of its integral beauty and its perfect harmony of colouring." The following requires to be read twice before its author's meaning is clear. "In the chapel of St. John, in the Eastern Transept, is Dean Gunthorpe's altar tomb, adorned with his initials and rebus, by whom the present Deanery, of King Henry the Seventh's period, was built."

Notwithstanding faults such as these, there are doubtless many visitors to Wells who will find in Mr. Clarke's Monograph a handy guide; moreover, the illustrations with which the book is embellished are pretty and effective.

A. M. WATSON.

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MANCHESTER.

Manchester, Old and New. By William Arthur Shaw, M.A., Fellow of Owens College. With illustrations after original drawings by H. E. Tidmarsh. 3 vols. large 4to. London, Paris, and Melbourne. Price 31s. 6d. [Messrs. Cassell & Co., Ltd., Belle Sauvage Yard, Ludgate Hill, E.C.]

The subject of this book cannot fail to be interesting to all who have any knowledge of the city of Manchester, either as it now exists, or, still more so, as it existed some fifty or sixty years since. Old manners and customs are told, old historic names are recalled, and old Manchester, with some of its quaint, half-timbered houses (now mostly swept away for improvements), described and illustrated, the latter adding greatly to the interest of the work.

The growth of Manchester, which may fairly be described as the first manufacturing town in the country, will be best appreciated by a reference to the map of Manchester and Salford as they appeared in about 1650 (vol. i. p. 8), and a further reference to the plan of the old church district in 1794 (vol. i. p. 17), and afterwards to any directory plan for the present year, the expansion during the last half-century especially having been enormous in all directions.

The work is divided into sections treating of different subjects, of which, after a short review of the ancient history of the town, the Cathedral takes precedence; and along with it may be taken the Chetham's College and the Grammar School.

"Th' Owd Church," as it was called (now the Cathedral), has been restored—generally very judiciously—and the surroundings so altered that if the old folks could be brought back they would hardly know it. Even the services are altered. The Easter Monday marriages, one of the events of the year, have practically disappeared. The times when Old Joshua Brooks (that kindly but eccentric old man) married the country couples in batches, telling those who complained "they'd getten the wrong man" to "sort thersels as they went out," have passed away, there being now no necessity for the parties to come to the parish church in Manchester, or to leave their own districts. The old public-houses opposite the church (in Fennel Street), known as "The Black Moor's Head," "The Old Pack Horse," have been taken down many years since. These houses were the great meeting-places for country wedding parties; and many a bridegroom has had to be hunted for when wanted, and been found drunk or asleep in one or other of them.

Chetham Hospital (or College) still remains, with very little alteration; and what alterations have been made have been judiciously done, and more in the way of opening out old work than in modernising. Unfortunately its position is such (being closed in on three sides by tall buildings, and on the fourth side, next the Cathedral, being set back a long way from Fennel Street) that it is very little seen, and, singularly enough, very little known. The fine and valuable library—the oldest free library in the Kingdom—is comparatively unknown even to residents, and little used, although it contains many valuable books and a good collection of illuminated manuscripts, which are, however, now withdrawn from the general public, a great many of them having been badly mutilated.

The revenues of the Cathedral have increased greatly by the expansion of the town, and large quantities of farm land, of little value fifty years since, have been built over, and become thickly populated districts; while town lands, at that time occupied as houses and gardens, are now very valuable business properties, so that out of the revenue formerly absorbed by the church for its own use the Ecclesiastical Commissioners (mainly in consequence of this development) now take something like £20,000 per annum for the augmentation of other livings in the district.

The Grammar School, dating back something like 400 years, has also been largely extended, the most recent and important extensions and alterations being in 1871, when the new school, dining-room, laboratory, and gymnasium were added. We are told that in 1855 there were six masters to about three hundred boys, while now there are thirty-three masters to about eight hundred scholars.

The duties of the City Corporation are very numerous, more so than most people are aware of, there being sixteen ordinary and four special committees; and a fairly good account is given of the principal ones by the author.

The Waterworks Department is described, commencing with the old well between Fountain Street and Spring Gardens, which in early days was a sufficient supply (no doubt at that time the water in the rivers Irwell and Irk was usable), and noting the different additions up to the date at which the Corporation undertook the responsibility of dealing with the question in 1845, and commenced the extensive series of reservoirs in the Longdendale Valley, which served the requirements until recently, when fears for the future were aroused, and the magnificent works at Thirlmere were commenced. The first water was turned on in the city from this new reservoir in 1895, and we may now consider the future supply amply provided for.

The Gas Works, with their 1,200 employés and a producing power of about seventeen million cubic feet per day, are also described and illustrated.

The hydraulic power and the electric lighting and supply of same for power purposes are not described, probably for want of space.

The cleansing department, drainage of property, sanitary arrangements, weights and measures, adulteration of articles of food, police, and many others, come within the range of the work undertaken, also the markets, all being forced upon the authorities by the expansion of the city. But perhaps a list of the principal improvements during the last seventy years will best show the development of the city:—

1822. Market Sted Lane widened.
1822. Town Hall in King Street erected.
1830. Manchester and Liverpool Railway opened.
1832. Improvements in Toad Lane and Long Millgate.
1834–5. Ditto at Hunt's Bank.
1838. Charter of Incorporation granted.
1845. Corporation Street formed.
1846. Manorial rights purchased for £200,000.
1847. Became seat of a Bishopric.
1847. Water Works Bill passed.
1850. St. Anne Street widened.
1853. Created a City by Royal Statute.
1858. Appointed an Assize town.
1864. Law or Assize Courts opened.
1866. London Road Joint Station erected (L. & N.W. and M., S. & L.).
1868. Tower of Cathedral rebuilt.
1868. Foundation-stone of new Town Hall laid.
1871. Royal Exchange rebuilt (first, erected 1729; second, in 1808; third, built in 1816; enlarged 1839; extended 1847).
1873. Owens College opened (very considerably enlarged in 1892).
1873. Lower part of Deansgate widened.
1877. Central Station (Midland) opened.
1877. New Town Hall opened (the old Town Hall then becoming the Free Reference Library).
1879. Upper part of Deansgate widened.
1879. Thirlmere Water Bill passed (water brought into city from new reservoir in 1895).
1882. Ship Canal. First Bill deposited (thrown out in 1883).
1884. Ship Canal. Second Bill rejected by Commons.
1884. Exchange Station (L. & N.W.) opened.
1885. Ship Canal Bill passed.
1894. Ship Canal opened by Her Majesty.

The Infirmary in Piccadilly, founded in 1752 by Dr. White and a few others, is a subject at present of considerable interest, as schemes for its extension and rebuilding are occupying the attention of both the trustees and the public. A capital illustration of it is given on page 104, vol. i., but the copy from the litho view, dated 1851, on page 111 is very incorrect in its proportions.

The staple industry of Manchester, cotton—with its different manipulations, warehouses, and warehousemen—calico-printing, and other industries connected with it are described and illustrated, and connected with these industries must not be forgotten

The Technical School, which was really the outcome of the Mechanics' Institution, started in 1825, transferred and opened as a technical school in 1882, having since that time outgrown its habitations, and many munificent gifts having been made to it for the purposes of increasing its usefulness by the Whitworth legatees and others, the city authorities are now erecting a building in Whitworth Street for its purposes, which will, when completed, be the most complete establishment of the kind in the country.

Engineering is a part and parcel of Manchester, and many notable men are named: Richard Roberts, the father of toolmakers, and one of the most inventive men of this century; Sharp, Stewart & Co. (formerly Sharp Roberts), who have now left Manchester and settled in Glasgow; William Fairbairn; Peel, Williams & Peel; James Nasmyth; Charles F. Beyer; Sir Joseph Whitworth, and others have passed away from amongst us; but the supply of men capable of taking their places and continuing their work shows no signs of failure. Some of the firms still remain, as in the case of Beyer & Peacock and Sir Joseph Whitworth & Co., and the number of capable engineers in the Manchester district is very great.

The history of Church and Chapel is inseparable from the history of any town, and a very interesting account is given of the course of Dissent.

In educational matters the foremost place is given to Owens College, with its fine range of buildings and its efficient staff of professors. Its influence on education has been very marked, and it is well said by the author that the College has pulled up the schools to the level it demanded. The Board schools have followed, and as a result of their work the position of elementary education is vastly different from what it was before 1870.

Libraries, artistic and political institutions, particularly the Portico Library, the Literary and Philosophical Society, the City Art Gallery, the Athenæum, the Conservative and Reform Clubs; the theatrical and musical section, including the Free Trade Hall and the different theatres, follow.

The troubles and hopes of the Ship Canal from its first practical conference at Mr. Daniel Adamson's residence on the 27th June 1882 to its opening by Her Majesty on the 21st May 1894, with a series of very good illustrations, add interest to the work.

The Royal Borough of Salford, inseparable from the history of Manchester, claims a place; and a short account of the suburbs, which now form the principal residential part of Manchester, closes one of the most interesting books which is within the reach of any person connected with the city.

The author has been very successful in obtaining information as to the local celebrities amongst the municipal and other sections, and the series of portraits is very good; those within the personal knowledge of the writer, extending over the last half-century, are particularly good—more so than some of the street scenes, in which the proportions of the buildings with the streets are unsatisfactory.

Generally speaking, Mr. William Arthur Shaw may be congratulated on having given to the public a most interesting account of *Manchester, Old and New*.

Manchester. JNO. HOLDEN.

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THE COPTIC CHURCHES OF EGYPT IN THE THIRTEENTH CENTURY.

The Churches and Monasteries of Egypt and some Neighbouring Countries, attributed to Abû Sâlih, the Armenian. Translated from the Original Arabic by B. T. A. Evetts, M.A.; with added Notes by Alfred J. Butler, M.A., F.S.A. 8o. *Oxford*, 1895. [*Oxford University Press Warehouse, Amen Corner.*]

This large and important work, the translator makes out, was written in the first decade of the thirteenth century; and consequently it might be more accurate to say that it describes the churches and monasteries as they existed in the twelfth century. The intention of the publication, although not stated, is evidently in the direction of forwarding the study of the Coptic Church in Egypt, a study warmly advocated by Mr. Butler in the preface to his *Ancient Coptic Churches of Egypt*, lately noticed in this JOURNAL [page 232]; and that author has supplied a large amount of foot-notes, which are found in almost every page of this book. To the historical student the work will be invaluable, as it will serve as a "Directory," or "Handbook," to the churches and monasteries as they existed at and before the date when Abû Sâlih wrote. Of course, owing to the period when it was written, it is full of legends, many of them being of a miraculous kind, but even these are not without their interest in the eyes of a real student.

Being principally historical, the book is not a "Pausanias" to the art and architecture of the locality or the time; still there are many incidental notices scattered through its pages which bear upon these subjects, and a few of them may be worth extracting for the present notice. Perhaps the first thing that will strike the reader is the number of Coptic churches that existed at the date when Abû Sâlih wrote. He describes the destruction of many of them at and before his time, some having been converted into musjids; add to this that many had been destroyed during the persecution of the Roman period. At Fustât Misr, or Old Cairo, he states there were 37 churches and 5 monasteries; in the Province of Al-Jîzah—or Ghizeh, from which the Great Pyramid is now named—there were 50 churches and 50 monasteries; at or near Siout there were 60 churches, some of these being excavated from the rock. In the town of 'Alwah, or the kingdom that belonged to it, there were 400 churches: this was in Nubia, and may perhaps have been Meroë.

Lane, in his *Modern Egyptians*, states that the Copts "compose less than one-fourteenth part of the population of Egypt," but that could not have been the proportion when the Arab Conquest took place. We are apt to forget this, that then, and for a long time afterwards, the Copts must have formed the great majority of the population; and consequently they were the workmen of the time—which no doubt included the builders and architects. There is evidence for this: it was a Copt who was the chief architect of the mosque of Ibn-Tûlûn, in the ninth century. Abû Sâlih states that it was "John the Monk, in the Caliphate of Al-Mus-tansir"—that was in the eleventh century—who "planned the walls of Cairo and its gates" (p. 151). Mr. Butler has a foot-note to this, saying that it is another proof that "the Copts were the architects of Cairo," and "not the Moslems" (*ibid.*). It was the same in India. When the Mohammedans first came to Delhi they employed Hindu workmen, the proof of which still remains in the old ruined arches at the Kutb. When 'Amr ibn al-'Âsi conquered Egypt, in the year 18 of the Hejira, his army of Arabs could not have had much art knowledge ; the greater probability is that they had none. This being so, their first teachers must have been the Copts, and Coptic art and architecture must have been the early influences on which the Saracenic style in Egypt was based.

It was a Copt, according to Abû Sâlih, named Ibn Kâtib al-Farghânî, who superintended the construction of the Nilometer, A.D. 864 ; he was beheaded, and his body was buried in the Coptic Church of Saint Coluthus. Mr. Butler quotes the opinion of Lane that this is the same architect that was employed by Ibn-Tûlûn on his great mosque. If this be the case, these slight details about him are curiously suggestive. It may be supposed that, if he came from Farghâna, his native place was the district of that name in Central Asia ; if this is assumed, he could not have been a Copt by birth. He must have been a Mohammedan originally; and the question naturally occurs, Why did he change his religion ? The explanation which presents itself might be that if the Copts were the architects and builders in Cairo, he would, from his profession, be thrown among them, and ultimately adopted their faith. This would explain why he, having become a heretic in the eyes of the Mohammedans, was beheaded, and his body preserved in a church as a Christian martyr. Abû Sâlih gives the date of his death from a *Guide to the Festivals*, as if it were a day with a celebration connected with it. The Quatuor Coronati are well known ; but here is another martyr saint, and also an architect, from a quarter that was little suspected.

Abû Sâlih, in describing (p. 130) how the monastery of St. John was taken by the Mohammedans, and turned into a mosque, says that "the first who constructed minarets in mosques was Mukhallad al-Ansâri." The translator here adds a foot-note stating that "it was not Mukhallad, but his son Maslamah ibn Mukhallad, governor of Egypt under the Caliph Mu'âwiyah from A.H. 47=A.D. 668 to A.H. 62=A.D. 682." Mr. Evetts further states that "Maslamah was the first that made additions to the mosque of 'Amr, by building in A.H. 53=A.D. 673 new structures on the north and east sides of it, and by adding a minaret." If this should be correct, then there was a minaret before the one at the Ibn-Tûlûn Mosque, which Fergusson says was the oldest known. There is a foot-note by Mr. Butler (p. 130) on the origin of the minaret : in it he refers to a communication of his published in the *Athenæum* in 1881, in which he tried to show that it had its origin in the Pharos at Alexandria, and he considers that his theory has been rather strengthened than shaken by subsequent research. On consulting the Arabic Dictionary of Steingass I find that the word for lighthouse is "Manâra-t" ; so that is evidently the source from which the name was derived. Mr. Butler quotes Makrîzî, who relates that all the minarets were of brick, and that the first stone minaret was that of the mosque of Al-Mâridânî.

The minaret naturally recalls the steeple, or bell-tower, of the Christian church ; but these do not seem to have been a common feature of the Coptic churches. Mr. Butler in his work does mention bells in some of the monasteries, but says not many of the churches have them. It may be supposed that these instruments were offensive to the Moslems, and were not used by the Copts for the sake of peace. Abû Sâlih mentions a monastery, Al-Kalamûn, in the Fayyûm, where there was a wooden gong : this substitute for the bell is still to be found in some places in the East. In Abyssinia stones are hung up and beaten with a stick, which is possibly the most primitive form of church bells.

Abû Salîh writes of "the pillars of the Apostles" as existing in more than one church ; and Mr. Butler, in footnotes (pp. 94, 186), explains that these were columns with the Apostles, or Saints, painted on them, and they were known under the term *Al-Bustulât*, and they formed the principal pillars of the nave. This seems to have been more or less a form of decoration practised by the Eastern Church. In the Uspenski Sobor, or Cathedral Church in the Kremlin at Moscow, the central columns are covered with large painted figures of Apostles and Saints. The first origin may, perhaps, have been from the twelve columns of the Holy Sepulchre at Jerusalem, which Eusebius says were "equal in number to the Apostles of the Saviour."* Mr. Butler, in his own work on the Coptic churches, describes that of Abu Sargah (St. Sergius) as having twelve monolithic columns, of white marble, round the nave, and on eleven of these still exists the life-size figure of a Saint or Apostle.† The typical meaning in this would be that the faith or holiness of these persons was the basis by which the Church was upheld.

The type goes still further back : the Samaritans say that the twelve stones which the children of Israel brought out of the Jordan were carried to Gerizim, and all they can show of their temple is a part of the foundation formed of these stones. Perhaps an earlier instance of the twelve stones would be those in the breastplate of the Jewish High Priest—each stone represented a tribe. It was from Bonomi I learned that the Mohammedans say that the twelve pillars in the Dome of the Rock at Jerusalem represent the twelve sons of Jacob. There was, perhaps, a still more primitive idea that underlay this symbolism; the words in Hebrew for "son" and "building" were, if not the same, at least very closely allied; and this led to the saying that it was by means of children—especially sons—that a man built up his house. This notion was not limited to the Children of Israel, for Euripides makes Iphigenia declare, "for sons are the pillars of the house." It was also the custom to cut or paint crosses on pillars; it is stated in the book that one Fakhr ad-Dîn, the wâlî of Misr, carried off eighteen pillars, marked with the sign of the cross, from one of the churches at Al-Jizah, and built an inn, as well as houses for himself, with them (p. 174).

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* *Palestine Pilgrims' Texts*, vol. i. p. 9.

† *The Ancient Coptic Churches of Egypt*, vol. i. pp. 187–8.

In the previous notice of Mr. Butler's work mention was made of the Beatalehem, or "House of Bread," of the Abyssinian churches; in Abû Sâlih's book he mentions a "bakehouse" (p. 105). Mr. Butler supplies a note to this, and says it was called the *Bait al-'Ajîn*, or "House of Dough," in which the Eucharistic bread is prepared.

One is tempted to go on and pick out more of the scraps in this book, but space forbids. Enough has been given to show its character, and at the same time to convey an idea of its value to any one who is studying the ancient churches of Egypt.

Wm. Simpson.

NOTES, QUERIES, AND REPLIES.

The Educational Training of Architects [p. 213].

From Arthur Bartlett [*A.*]—

Reading through the interesting Papers on "The Educational Training of Architects," published in the Journal of 4th March, one calls to mind how a great artist in a sister art, Robert Louis Stevenson, acquired his scholarly and delightful style. Of all the English prose-writers of the last half of the nineteenth century, it would be hard to find one more fresh and vigorous in expression, or more charming and natural in manner. And yet this style was acquired by "playing the sedulous ape," as he calls it, to the writers he loved. He tells us how he persistently carried about in his pocket a volume of his favourite author for the time being, and copied his phrases and terms of expression until he could write in exactly the same way. Yet this continuous, systematic, and thorough study of other men's works produced an entirely original and excellent writer, in whose works one can detect no influence of Scott, or Hawthorne, or any of the authors in the study of whose powers he had developed his own. This was essentially a form of self-education. The student chose his master, living or dead, absorbed his ideas and followed his manner in details, until he could produce work that was at any rate recognisable as a fair example of his master's school. Thus he passed from school to school, and when at last his turn came to take his place in the world on his own merits, he was, since he began with the spark of divine fire in him, no longer the sedulous ape, but himself only, thoroughly trained in his calling, his mind on the alert from his constant encounters with the minds of his masters.

Could an architectural student work out his artistic salvation thus? It is impossible, as Mr. Statham pointed out, to do away with the influence of existing buildings. We, most of us, are born in a building of some sort or other, live in one, die in one; and consciously or unconsciously, for good or for evil, the influences of the buildings by which we are surrounded sink into our minds. Is it not better, then, for the young student to be encouraged to play the sedulous ape to the master he admires for the time, and trust to the future to bring out his talents if he has any, rather than to seek to produce something from the nothing which he has in his mind by setting an undue value on his juvenile originality?

Holywell Priory, Shoreditch.

From Henry Lovegrove [*A.*]—

I thank Mr. E. W. Hudson for his very interesting notes [p. 237], and venture to suggest that the well in question may have been steined in consequence of the level of the ground having been raised in this part of Shoreditch. If we assume that this portion of the High Street has been widened, the discovered well would be very close to the east wall of the Priory; and as a matter of fact it was only a few yards from the old wall I found in Anning Street. I have no wish to assert that the well is ancient. My notes simply reported the matter.

The Deliberate Falsification of Ancient Buildings.

From John Hebb [*F.*]—

Mr. G. A. T. Middleton [*A.*] has a Paper in the last number of the *Nineteenth Century* with the above title, founded mainly on the researches of Professor W. H. Goodyear, of New York, with regard to certain deceptions or optical refinements in Mediæval and Renaissance buildings, and published in the *Architectural Record* of New York.

It appears from the observations of Professor Goodyear that the curvature in the horizontal lines and the inclination of the vertical lines of buildings, which it is well known from the measurements made by Mr. Penrose were adopted by the Greeks in the construction of their temples, was not confined to the Greeks, but was continued by Mediæval and Renaissance builders. These artifices were used to increase the apparent size of certain buildings, and to correct apparent errors in perspective. The irregularities in the setting-out of the parts of an ancient building have been generally attributed to want of knowledge or carelessness on the part of the builders; but it seems clear that they were intentional, and it is probable that a great deal of the charm of ancient work is to be traced to what we ignorantly assumed to be defective workmanship, but which was in reality deliberate artistic treatment.

The discoveries made by Professor Goodyear seem to emphasise the impossibility of attempting to restore an ancient building by pulling it down, numbering the stones, and replacing them. The refinements practised by Mediæval builders were of such a delicate kind that they were not suspected, or are only to be appreciated by careful comparison and admeasurements; and it is idle to expect that an ordinary nineteenth-century architect or an ordinary nineteenth-century mason would be able to discriminate between them, and still less to reproduce them; they are almost as impalpable and as evanescent as the perfume of a flower.

LEGAL.

Dwelling-house "inhabited or adapted to be inhabited by persons of the working class."

THE LONDON COUNTY COUNCIL *v.* HYMAN DAVIS.

At the Worship Street Police Court, on the 17th March, Mr. Hyman Davis, builder and property owner, of 65, Bishopsgate Street Without, appeared before Mr. Haden Corser, in answer to a summons taken out by the London County Council for having failed to comply with a notice calling upon him to set back the front wall of No. 105, Brick Lane, Spitalfields, so that every part thereof should be at a distance in every direction not less than the "prescribed distance" from the centre of the roadway (viz. 20 feet), in accordance with sections 13, 14, and 200 of the London Building Act 1894, the said house having recently been erected at a distance of only 12 feet 1 inch from the centre of the roadway, to a height exceeding the width of the street, and being alleged to be now occupied by persons of the working class.

Mr. T. Seager Berry, in opening the case for the London County Council, drew the learned magistrate's attention to the fact that there was no definition in the London Building Act of the term "persons of the working class," but referred him to the definition embodied in section 75 of the Housing of the Working Classes Act 1890, which limited the term "letting for habitation by persons of the working class" for the purposes of that section to "letting a house or part of a house at a rent not exceeding in London £20 a year." There was, however, a further definition, which might be of assistance, namely, that contained in the Standing Orders of the House of Commons, and embodied in the South-Eastern Railway Company's Act 1896, and many other Railway Companies' Acts, which was as follows:—"The expression 'labouring class' means and includes mechanics, artisans, labourers, and others working for wages, hawkers, costermongers, persons not working for wages but working at some trade or handicraft without employing others except members of their own family, and persons other than domestic servants whose income does not exceed an average of thirty shillings a week, and the families of any such persons who may be residing with them." He then pointed out the conditions under which a builder was entitled to build within the prescribed distance, as set forth in subsection 5 of section 13, viz. that where it was desired to alter or re-erect a building existing either at the commencement of the Act or at any time within seven years previously, and which stood within the prescribed distance, it was permitted by the Act to do so, provided that the builder got the plans of the old building certified by the District Surveyor; but the privilege in subsection 5 was restricted by the following proviso:—"Provided always that no dwelling-house to be inhabited or adapted to be inhabited by persons of the working class shall without the consent of the Council be erected or re-erected within the prescribed distance to a height exceeding the distance of the front or nearest external wall of such building from the opposite side of such street, and that no building or structure shall be converted into such dwelling-house within the prescribed distance so as to exceed such height." He contended that Mr. Davis had lost the privilege conferred by that section, inasmuch as the building had been erected within the prescribed distance to a height exceeding the width of the street, and was now occupied by persons of the working class, and that by section 206 the exemption or privilege enjoyed ceased when the building became used by persons of the working class, and the building thereupon became subject to the provisions of section 13 (1). He also contended that this was not an alteration or re-erection within the meaning of section 13 (5), inasmuch as the owner had erected eleven houses, each four storeys high, with no back yards, on a site previously occupied by ten houses, each three storeys high, and each having a backyard. The case against No. 105 was taken as a test case, the Council contending that the decision in such case would govern each of the remaining ten houses of the block.

Mr. Arthur Crow, District Surveyor for Spitalfields, was then called, and stated that the house in question was one of a row of eleven houses erected by Messrs. Davis Bros. in 1895 from plans prepared by Mr. H. H. Collins. The site of the present houses was formerly occupied by ten houses, each of three storeys, and having yards at the rear. The plans of those old houses were duly certified by him in accordance with section 13 (5) of the Act. (The certified plans were then put in evidence.) He examined the plans of the new buildings, and approved them, on the understanding that the houses were not designed for persons of the working class. The accommodation shown by Mr. Collins's plans included a shop and back room on the ground floor, and three floors over, with two rooms on each floor. The buildings were duly proceeded with, and inspected by him from time to time. On 23rd January 1896 he found that six houses had been roofed in, and were being fitted up for occupation; that in each house the back rooms on each floor were prepared to receive ranges, and that in No. 107 ranges had been fitted on the ground and first floors. On 24th January he served Notices of Irregularity, which were produced, objecting to the houses, under sections 13 and 41, on the ground that they were being adapted for working-class dwellings. In reply he received a letter from Mr. Collins, which he produced, stating *inter alia* that, "as you must be aware, these buildings have never been erected for, nor are they intended for, the occupation of the artisan and labouring classes." Thereupon he consulted the Council's advisers; and, having regard to that letter, no action was taken. In October last his attention was called to the houses, and he inspected them and found that they were sub-let to various sub-tenants. Dealing with No. 105, the whole house was let by Mr. Davis to Israel Cohen, a working clockmaker, at £2 a week, who, with his wife and family, occupied the ground floor. Each floor above was sub-let by Cohen to a separate family at 8*s.* 6*d.*, 8*s.*, and

6s. a week respectively. Each sub-tenant was a cabinet-maker by trade. He put in a plan showing the house as at present existing.

In cross-examination by Mr. Marshall Hall, who appeared for Mr. Davis, witness said, assuming the house not to be a working-class dwelling, it did not infringe the Act as regards the line on which it fronted; but the party-walls were not coincident with the old party-walls; that he made a return to the Council of the houses when they were roofed in; that he had been paid his fees as District Surveyor; that he thought the house was adapted for persons of the working class because it and the others in the block were so occupied.

Mr. Thomas Blashill, Superintending Architect of Metropolitan Buildings, said that he had seen the house in question; that Brick Lane was a highway; and that the Council had given no consent to the building, which was inside the prescribed distance.

In cross-examination witness said that if the Council's views were correct, a very large number of East End houses and some West End houses in poor-class neighbourhoods would be affected by it.

Inspector Harvey, of the Whitechapel District Board of Works, said he had inspected the houses on several occasions. He confirmed the District Surveyor as to the occupation, and added that in No. 111 the two upper floors (four rooms) were occupied by a man—to whom they were sub-let at 15*s.* per week—with his wife and three children and ten lodgers. At No. 115 there were three single-room sub-tenancies, two by a laundress and an office charwoman, each paying 3*s.* 6*d.* a week rent.

In reply to the magistrate he said the cooking in the upstair-rooms was done at open stoves. There were two w.c.'s in each house.

Dr. Loane, Medical Officer of Health for Whitechapel, said he had visited the houses, and he produced some photographs of them.

The tenant Cohen and one sub-tenant were called and corroborated as to rents and occupations.

The tenancy agreement with Cohen was produced, together with his rent-book, containing rules to be observed by the tenants.

The magistrate in giving judgment, without calling on Mr. Marshall Hall, said: "The question I have to decide is whether the houses are, within the meaning of section 13 (5) of the Building Act, 'dwelling-houses to be inhabited or adapted to be inhabited by persons of the working class.' If they are, they are within the prescribed limits, and must be set back. If they are not they may remain. There is nothing to guide me as to what is meant by 'persons of the working class,' except section 75 of the Housing of the Working Classes Act 1890" (which he read). "If this is to be a guide, it is a money guide, viz. an annual rent of £20 for a house or part of a house. I must, however, look at the facts of the case. I need not go through the various sections, since the parties agree that what I have to decide is whether this house is a house to be inhabited or adapted to be inhabited by persons of the working class. I should mention the South-Eastern Railway Company's Act of 1896." (The magistrate then read the section which is quoted above.) "That section seems as if, after exhausting every class named therein, anyone else earning less than 30*s.* a week was of the labouring class. The person to whom this house is let is Cohen, at a rent of £2 a week. He is a watchmaker, and occupies the ground floor. Above are first and second floors, and a floor in the roof. The house is set out as a house would be in Piccadilly if designed for a shop with living rooms over. How could you erect differently a shop with living rooms over? I must not look at the passing character of the tenants, but at the house. Every place of bricks and mortar can be lived in by persons of the working class if they can afford it. Cohen has grossly overcrowded his premises, which are occupied by persons who work with their hands for their daily bread; but that cannot alter the intention of Davis when he built the house—it cannot alter the character of the house. The Legislature intended houses for persons of the working class to have a reasonable provision of air-space in front, because more people live on the premises. Davis says—I don't want the working class. I must find that these houses are not houses to be inhabited or adapted to be inhabited by persons of the working class. The people living there are, in my judgment, persons of the working class. Many rooms are occupied by persons strictly and accurately described as persons of the working class."

The summons was accordingly dismissed, with ten guineas costs, the magistrate expressing his readiness to state a case for the Supreme Court. The defendant's counsel said that defendant would himself like to have a case stated.

Party-wall: Chimney: New Brickwork.

THE AËRATED BREAD COMPANY *v.* SHEPHERD.

This case came before Mr. Justice North, in the Chancery Division, on the 20th, 21st, and 22nd February, and the 2nd, 3rd, and 23rd March. It was an action for trespass, raising *inter alia* the question whether the defendant in building chimneys against a party-wall had complied with the provisions of section 64, subsection 18, of the London Building Act 1894. Subsection 18 provides as follows: "A flue shall not be built in or against any party-structure unless it be surrounded with new brickwork at least four inches in thickness, properly bonded."

The party-wall, which was from fourteen to eighteen inches thick, was built in 1892. The flues were built about three years later against the party-wall, which formed the back of the flues. The other sides were of new brickwork. The question was whether they were surrounded with new brickwork within the meaning of the above section. Evidence was admitted on the point. The plaintiffs' surveyors said that brickwork three years old was not new brickwork within the meaning of the section. The defendant's surveyor said that the section was only intended to prevent perished brick or unsound mortar being put in at the back of a flue, and that the party-wall was new brickwork, and would remain so for fifty years for the purposes of the Act.

Mr. Swinfen Eady, Q.C., and Mr. W. F. Hamilton for the plaintiffs; and Mr. Cozens-Hardy, Q.C., and Mr. Ingle Joyce for the defendant.

Mr. Justice North went in detail through the conflicting evidence of the surveyors as to the meaning of the section, but held that the section itself was perfectly clear. The flue was to be surrounded with new brickwork, put there at the time of the building, and to use for that purpose a wall already built was not a compliance with the section.

MINUTES. XI.

At the Eleventh General Meeting (Ordinary) of the Session, held Monday, 29th March 1897, at 8 p.m., Professor Aitchison, A.R.A., *President*, in the Chair, the Minutes of the Meeting held 15th March 1897 [p. 263] were taken as read, and signed as correct.

The following members, attending for the first time since their election, were formally admitted and signed the respective registers—namely, Alexander Ross, LL.D. (Inverness), *Fellow*; and Henry George Fisher, *Associate.*

A Paper by Mr. J. Alfred Gotch [*F.*], F.S.A., entitled HERALDRY OF THE RENAISSANCE IN ENGLAND, having been read by the author and illustrated by lantern slides, the same was discussed, and a vote of thanks passed to him by acclamation.

THE NEW GOVERNMENT OFFICES SCHEME.

By H. Heathcote Statham [*F.*].

Read at the General Meeting of the Royal Institute of British Architects, 12th April 1897.

IN considering the subject of New Government Offices before the Institute, it is natural and right that it should be regarded mainly from the architectural point of view. Questions of financial and departmental policy, and of the most convenient selection of sites in regard to the work of the various Government departments, are not directly our concern. Those are questions for the Government. In considering the subject we must take note of all the facts which we can obtain from official reports and statistics in regard to the practical requirements of the departments for which buildings have to be provided; but, that done, our business here is to consider in what manner such buildings can be carried out so as to produce the best architectural effect, consistently with those requirements, both in regard to the buildings themselves and to those questions of alignment of streets and open spaces which come under the general term of "public improvements"; to criticise such schemes in an architectural sense; and to protest, in the interests of national art, against the importation of a spirit of poor and petty economy into the carrying out of works which are to form an important part of the architecture of the capital. It is a subject of national importance, for the architecture of its public buildings is, or should be, the outward and visible sign of the greatness or littleness of a nation.

In order to fully appreciate the present position, it is well to look back a little, to realise what we have lost by neglect, indifference, and blundering in the past, if by any means we may induce the Government of the present moment to make some endeavour, at the eleventh hour, to escape adding fresh architectural failures to the long list already on record.

Considering that Government departmental offices are nearly all under the official management of a Cabinet Minister, that in the work they carry on they are responsible to Parliament, and that the heads of different departments may often be under the necessity of conferring with one another, it seems a matter of mere common-sense that any attempt at rehousing such departments should be carried out according to a prearranged scheme, so that each building should be designed and placed in relation to the ultimate completion of such scheme, and that all the buildings, when finished, should be concentrated near to one another, and should form a great architectural *ensemble.* This is what has been pressed upon one Government after another for half a century, but all to no purpose. Everything that has been done has been done piecemeal, without the slightest relation to any general plan or idea. What renders this the more deplorable is that it is a question, not only of the design of the buildings architecturally, but of the general improvement of the important district of London in which they are erected; street improvement is bound up with buildings, a consideration which renders it all the more important that every national building should be planned in relation to its present and possible future surroundings.

In regard to this subject let me call attention to the great plan drawn out by Sir Charles Barry [fig. 1], forty years ago, for the concentration of the Government offices and the improvement of the Westminster and Whitehall district. It is melancholy indeed to look at this now, to reflect that nearly all its proposals are now impossible of accomplishment, and to think what might have been the aspect of this portion of London if the Government and the people of England had been large-minded enough to accept it and commence carrying it out part by part; and in regard to the great building proposed for the concentration of the Government offices it may be observed that Barry specially states that it was so arranged that portions of it could perfectly well be carried out separately until the whole were completed. No doubt we should take exception now to the quadrangular courts as not being large enough; but that sanitary question had not come up then—you cannot expect even a great architect to be in advance of his day in everything—and before much of the block had been carried out it would have come up, and the design might have been remodelled in that respect without impairing its general grandeur. But I have wished to bring before you and to put on record in the JOURNAL this sublime "improvements" plan, as I think it may truly be called, by the greatest architect we have had since Wren—the greatest, because with him architecture was not mere picturesque detail, but a conception of grandeur of plan as the basis of the whole. I have brought this before you because many of the younger architects of the day are probably unacquainted with it, and because, when we see the poor and mean things which have been done and are threatened in regard to our national buildings, it is wholesome to have our aspirations stirred up by the contemplation at least of a fine idea. And there are, as we shall see presently, one or two points in Barry's plan which are still practicable, and important as suggestions.

In 1856 it was announced that the Government, as represented by the Commissioners of Works and Public Buildings, were prepared to receive three designs from architects of all countries: first for a block plan for concentrating the principal Government offices on a site between Whitehall and the new Palace of Westminster; second and third, for designs for Foreign Offices and War Offices to form part of such scheme. Observe the extraordinary and almost incredible blunder here, that competitors could go in separately for any one of the three competitions, so that A might be selected for the general plan, and B and C might be selected for the separate designs for portions of the general scheme, made without any relation to or any knowledge of the general scheme selected. It is like an incident out of a Gilbert and Sullivan opera. The result, as we all know, was that no commission was given for the War Office, and that Scott, who received the second premium both for the War Office and the Foreign Office, was given the latter, for some reason, over the heads of the first premiated competitors. What is more curious is that the building of the War Office should have been abandoned and that of the Foreign Office undertaken first, although for years previously evidence had been given, over and over again, that a new War Office was the first necessity, and was required at once, in consequence of the wretchedly inconvenient manner in which the work of that department was distributed through a number of small and disconnected houses.

Let us consider the Foreign Office a moment, because some points in regard to it and to the evidence given before the Select Committee of 1877 have a decided bearing on the question immediately before us. It has been represented that the Foreign Office block is such a failure that it is a proof of the ill effects of getting eminent architects to erect Government buildings. This was made a point of in the 1877 Committee examination, when Mr. Mitford,

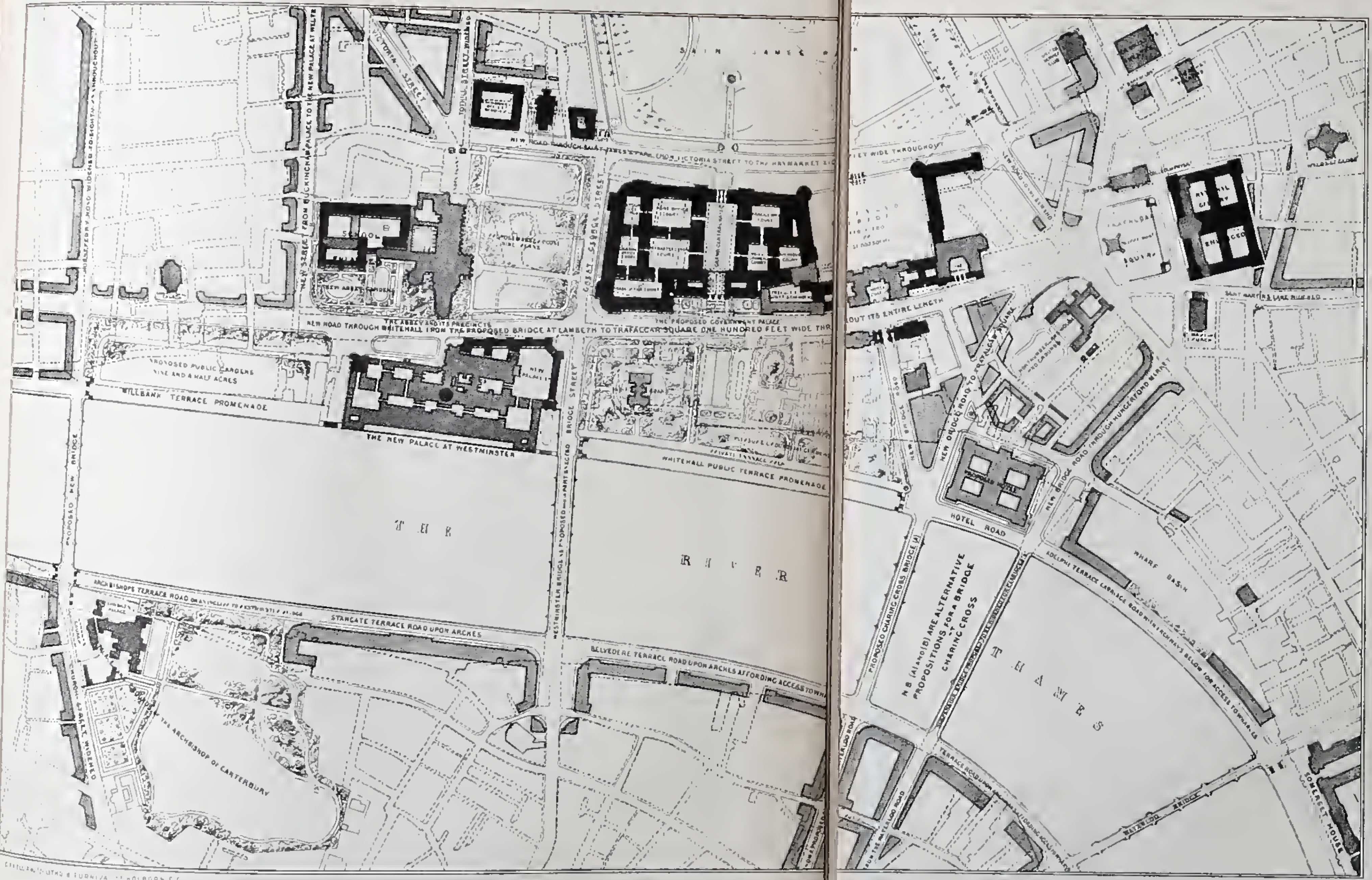
SAINT JAMES PARK
VICTORIA STREET
TOTHILL STREET WIDENED
NEW STREET FROM BUCKINGHAM PALACE TO THE NEW PALACE AT WESTR
HORSEFERRY ROAD WIDENED TO EIGHTY FT THROUGHOUT
NEW ROAD THROUGH SAINT JAMES'S PARK FROM VICTORIA STREET TO THE HAYMARKET
FEET WIDE THROUGHOUT
SCHOOL
NEW ABBEY GARDENS
THE ABBEY AND ITS PRECINCTS
GREAT GEORGE STREET
THE PROPOSED GOVERNMENT PALACE
NEW ROAD THROUGH WHITEHALL FROM THE PROPOSED BRIDGE AT LAMBETH TO TRAFALGAR SQUARE ONE HUNDRED FEET WIDE THR
OUT ITS ENTIRE LENGTH
PROPOSED PUBLIC GARDENS NINE AND A HALF ACRES
MILLBANK TERRACE PROMENADE
NEW PALACE
THE NEW PALACE AT WESTMINSTER
BRIDGE STREET
PRIVATE TERRACE
WHITEHALL PUBLIC TERRACE PROMENADE
THE RIVER
PROPOSED NEW BRIDGE
WESTMINSTER BRIDGE AS PROPOSED AND PARTLY EXECUTED
ARCHBISHOPS TERRACE ROAD
STANGATE TERRACE ROAD UPON ARCHES
BELVEDERE TERRACE ROAD UPON ARCHES AFFORDING ACCESS TO WHA
CHURCH STREET WIDENED
THE ARCHBISHOP OF CANTERBURY
NATIONAL GALLERY ENLARGED
TRAFALGAR SQUARE
SAINT MARTINS LANE WIDENED
NEW ROAD TO TRAFALGAR SQUARE
NEW BRIDGE ROAD
NEW BRIDGE ROAD THROUGH HUNGERFORD MARKET
PROPOSED HOTEL
HOTEL ROAD
PROPOSED CHARING CROSS BRIDGE (A)
N.B. (A) AND (B) ARE ALTERNATIVE PROPOSITIONS FOR A BRIDGE AT CHARING CROSS
THAMES
WHARF BASIN
ADELPHI TERRACE CARRIAGE ROAD WITH ARCHWAYS BELOW FOR ACCESS TO WHARFS
TERRACE ROAD UPON ARCHES AFFORDING ACCESS TO WHARFS
WATERLOO BRIDGE
SOMERSET HOUSE

FIG. 1. SIR CHARLES BARRY'S SCHEME FOR WESTMINSTER IMPROVEMENTS 357.

then the Permanent Secretary of the Office of Works, informed the Committee that "if a new War and Admiralty Office were built it would be infinitely better built and more satisfactory in every way if it were built in the department, and our own surveyors were to draw the plans . . . the only additional expense would be the hiring of a few temporary draughtsmen." In answer to the question whether he objected to any artist or architect being brought in who was not a salaried or permanent officer of the department, Mr. Mitford gave the following delightful reply, which is worth preserving:—

> "For public offices I think it would be better not to introduce such an artist or architect, because if our department were instructed to prepare plans, and were told by a committee of taste, Members of the House of Commons and others, who might be appointed, that the building was to be produced in such and such a style, I believe that it would be as well done in our department as it would be done outside."

It would be a pity to spoil that by any comment. Scott was examined on the same point, and when asked whether he did not think it possible that among the salaried draughtsmen of the Office of Works there might be some person of the highest architectural genius, he replied, "I think he would leave the office very soon"; in other words, he would not find it worth his while to stop. On the one hand, a man of genius can do better for himself than by making anonymous designs for which he never gets the credit; on the other hand, there is a deadening effect in the very fact of architectural work being turned out under an official system and according to routine. This is an important point, because I suspect that there is a strong inclination in some quarters to put Government buildings such as these into the official mill. On the Select Committee of 1887 questions were put to Mr. Taylor, evidently with a special motive, as to the cost of plain brick buildings as compared with what might be called architectural buildings, and the answer was recorded that such buildings could be carried out for two-thirds the money that an "architectural" building would cost. Why was that question put? But without anticipating that we are to sink so low as to mere utilitarian buildings, what are we to expect if the Office of Works is to do the architecture of the Government offices? I only know of two buildings carried out in recent times by the Office of Works which can be called fairly good and refined architecture—not remarkable nor original, certainly, but dignified and refined as far as it goes—viz., Bow Street Police Courts, and the southern block of the General Post Office buildings. In the latter it is known that Fergusson had a hand, though, with an honourable feeling of loyalty to the establishment, he would never say exactly what share he had in it. Compare the north block, recently built, and apparently a purely official emanation, with this, and we shall have an instructive lesson. Or look at the branch Post Offices which are being erected by the Office of Works in various large towns. As far as I have seen these, they are totally commonplace architecture, with no interest whatever, and all the worse for being pretentious. The Birmingham Post Office in particular is one of the most vulgar pieces of design one could well see. Is it proposed to reduce our Government buildings to that level of architectural style?

There were certainly defects in the Foreign Office—defects of drainage, which was evidently not properly looked after by the architect; defects of lighting, which arose partly from the sin of making a grandiose elevation without sufficient reference to the use of the rooms. In the upper storey the semicircular windows are right down on the floor; I found a gentleman drawing in one of these upper rooms with no light except from a skylight put in after the building was finished; the nominal window was useless. That the corridors are very dark in some places is true. It is complained that the offices are too lofty; they in fact range with the reception rooms, which might have been avoided by making the former rather higher and introducing a mezzanine. But I think the complaint against them in this respect much overstated; they are higher than necessary; it is not a serious matter, and it is hardly fair to blame Scott for it, because, as he put it in his evidence in 1877, he started on the building with the distinct understanding that a palatial building was required—the competition was for a palatial building, and all the world were invited to compete—and it was only when it was half finished that he was told that he was too palatial. The comparison made between this and the old Treasury building, in the evidence of 1877, by several official witnesses, to the effect that the old building was far more comfortable and suitable than the new, is to me astonishing. As Scott said, "People do not complain in an old building; they only complain in a new one." The Treasury has a very good architectural front, but internally it is wretchedly planned and full of dark corners. I should be sorry to have to work in it.

The mistakes in the Foreign Office are therefore no argument against the employment of an outside architect, or against the erection of buildings of a palatial character for Government offices. The mistakes might all be easily avoided on another occasion. The one important point which is brought out in the evidence before the 1877 Committee is that the architect was not sufficiently in touch with the official authorities, and this was no fault of his own. According to Scott's evidence (which was confirmed by other witnesses) the Office of Works had adopted the idea that any interference or advice on their part during the progress of the building would have been resented. Scott's own feeling was directly to the contrary. He would have been only too glad, he stated, to have had the constant advice and opinion of the official representatives of the Government at any and every stage of the work. In short, the evidence before that Committee leads to the conclusion that, during the carrying out of a Government building, the Office of Works should assume more distinctly the position of client or "building-owner" (to adopt the phrase consecrated by the London Building Act). That is the lesson we gather from the whole history of the Foreign Office buildings. It is not the business of the Office of Works to design such buildings; it is their business to act the part of client to the architect, and to keep him fully informed as to practical requirements. *Au reste*, the Foreign Office is not a great building architecturally. It wants breadth and concentration of design. Its author was working in a style uncongenial to him, and forced upon him by Lord Palmerston. It is what is called a "handsome" building—it does not get beyond that praise. But it is at least laid out on a large and sumptuous scale, and so far worthy of our national dignity. Its interior quadrangle, 240 feet long by more than 170 in width, is spacious enough both for dignity of effect and for adequate light and air. We shall see the point of that just now. With all its faults, it is the best piece of Government Offices architecture we have yet had; and, as things are going now, it seems too likely that it is the best we ever shall have.

It was not till 1882 that the next move was made for new War and Admiralty Offices. Every one who was acquainted with the history of the subject expected that the site would be that on the north of Great George Street, a portion of which site had been already, I believe, purchased or negotiated for by the Government; there is no necessity to follow out that part of the question here in detail, as it is financial and not architectural. Twenty years ago Sir Henry Hunt recommended the purchase of all the remainder of that site which was not in the hands of the Government. To have built the War and Admiralty Offices on that site would have had the advantage of placing them near the Houses of Parliament, of grouping them with the Foreign Office in a very effective manner, and of carrying out at the same time the widening of Great George Street and the widening of Parliament Street, the latter a public improvement which ought to have been carried out years ago. Instead of this we were presented with the site as shown on fig. 2, the grand motive of which was economy. To gain this end a portion of the proposed new building was kept back behind the Whitehall houses, so that for that portion it became a back building—a most miserable and undignified manner of treating a great public building. Moreover, the great opportunity afforded for widening Whitehall by setting back the frontage line westward was wilfully and persistently ignored. Both Mr. Ewan Christian and Mr. Macvicar Anderson, as expert witnesses before the Select Committee of 1887, pressed this point strongly. In answer to the Chairman's question, whether the omission to widen Whitehall would be a great chance thrown away, Mr. Christian replied, "I should view it as a national misfortune." It was not only a question of Whitehall being too narrow at that point, but also that it is out of centre with Trafalgar Square and the National Gallery, and the altering of the west line of the street, as Mr. Anderson strongly urged, would give the opportunity for starting it on the axial line. But these two very competent witnesses preached to deaf ears. As to the selected design, the plan was unquestionably a good one, and the device of taking the corridors round small internal courts, giving sufficient light and air for passages though not for rooms, was an excellent one, which has probably left its mark upon the planning of this class of buildings. It is the running of corridors between two rows of rooms which gives rise to the difficulty in properly lighting them, which is one of the faults of the Foreign Offices.* But the large central court, into which rooms and not passages were to look, was certainly too small, considering the height of the buildings—only a hundred feet wide, while the buildings would probably have reached to about ninety feet. I know some people will argue that a street is considered adequately wide where its width equals the height of the houses; but, in the first place, we expect something more in a great public building than the bare minimum of light;

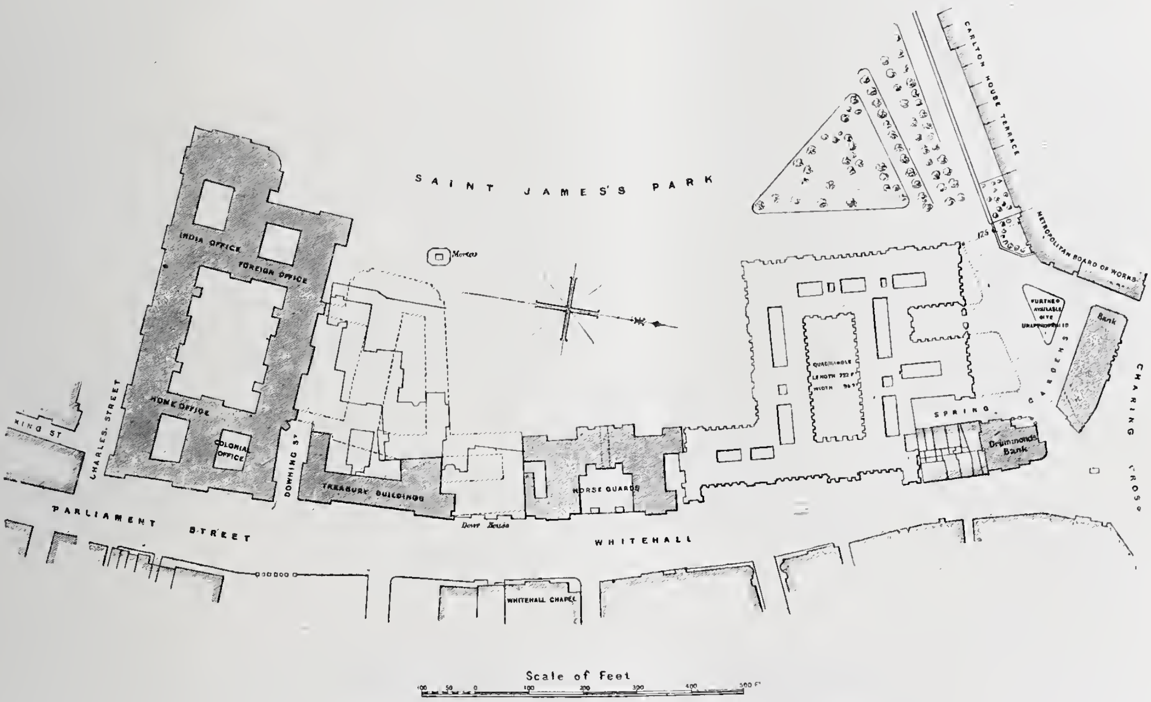

FIG. 2.—THE ORIGINALLY SELECTED PLAN FOR WAR AND ADMIRALTY OFFICES.

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* It has been the fashion to depend in this case, as Scott did at the Foreign Office, on catching sidelights at intervals from staircases opening out of the corridors. My own observation leads me to think that, where internal areas for lighting are not possible or not used, a great deal more light is got into a long corridor by a window at each end (which does not involve much loss of space) than by two or three side-openings.—H. H. S.

and, in the second place, a street open at both ends is under very different conditions, in regard to ventilation, from a courtyard built up all round. However, the consideration of the point became unnecessary, since the design was destined never to be carried out. The Government had not yet got far enough in cheeseparing and spoiling an important architectural scheme; there were lower depths, and the Select Committee of 1887, to our further astonishment, while recognising that great objections had been made to the scheme, proposed to mend matters, not by improving it, but by abandoning the erection of the War Office altogether, cutting down the new portion of the Admiralty Offices to a plain or nearly plain building, and utilising the old Admiralty buildings. The whole revised scheme was simply a political bid to catch the votes of the class of constituents who are for ever calling out for retrenchment and economy, who grudge every shilling spent on art, and who appear to be but too well represented in the House of Commons. To quote the words of the Report:—

> "We are satisfied that by making additions to the present Admiralty all the requirements of that Department may be suitably provided for; that this work, including some repairs and improvements to the existing building, can be done at a moderate cost, and may be completed within two, or at most three years; that a very large reduction of expense for buildings would thus be secured, and to this must be added, as against the cost of erecting a new War Office, the value, estimated at £266,000, of the portions of the Spring Gardens site which would be preserved after providing for the suggested additions to the Admiralty, and for the opening of the Mall into Charing Cross. We therefore recommend that the entire official staff of the Admiralty and War Office respectively should each, as soon as possible, be placed under one roof; and that the two buildings should be situated at no great distance from each other; but we are of opinion that these recommendations can be carried out, and that a great saving of money and time can be secured by adopting other plans instead of those which have been referred to us for consideration; and we find that the main buildings of the Admiralty may with advantage be retained."

It is worth notice that while recommending that the Admiralty and War Office should be situated near each other, the Government, true to the hereditary policy of piecemeal action, ordered the commencement of the Admiralty scheme without having even settled where they could place the War Office so as to be in contiguity with it.

Fig. 3 shows the plan of the Admiralty as now proposed, the block farthest from the old Admiralty being now completed, and the foundations being at present in process of formation for the return block which is to connect the old and new buildings. In regard to the old Admiralty I am of opinion that, in spite of the bad proportions of the portico, there is a certain amount of character about the building, and one is always reluctant to remove an old piece of architecture if it can be avoided; but it is to me astonishing that any one should think of preserving a building with such an interior as part of a new public office of importance. It is a perfect rat-hole. I am aware that there is a scheme for reflooring it, but nothing could ever make a decent building of it, from a modern point of view, short of entirely gutting it and rebuilding the interior walls on a new plan; and it would be ridiculous to pretend that the exterior is worth that. And what are we to say as to the new portion? I do not wish to say anything unkind about the architects; on the contrary, I think they merit our sympathy in one sense; they prepared what they regarded as a very grandiose design, at all events a rich and costly one, and were not allowed to carry it out. They won the competition on their merits with what was undoubtedly a very good plan; they appear to have a high talent for planning, but it does not seem to come to much more. The original competition design was essentially a commonplace piece of architecture carried off by a profusion of rich details, including a number of useless columns projected in front of the wall line and carrying nothing whatever, and by a very beautiful and finished drawing, which so bedazzled one of the committee as to induce him to write an article in *The Times* to the effect that the designs showed a beauty of drawing not surpassed even by Hollar—the writer not being aware that, as far as the representation of detail went, Hollar was one of the worst architectural draughtsmen that ever lived. In the economical fit which induced the adoption of this latest scheme, the design was cut down in height, brick with stone dressings substituted for stone, and all the showy decoration pared away; the superficial richness being gone, the essential commonplace alone remained. I noticed that the First Commissioner in the House the other day, while admitting that the building was not all he could wish (he had, of course, to take the sins of his predecessors on his head), deprecated people judging of it while only one wing was completed. But the one wing suffices to show us the detail and style of the building, its absolute commonplace and coarseness; it is a sort of architecture just about fit for the front of a city market or a *magasin de bon marché,* and in this case it must be admitted that the Office of Works draughtsmen could not well have done worse for us, and might have done better. The view of it, as it is to be, when completed, reproduced in fig. 4, shows that there is to be a quadrangle with a screen towards the parade, the inner sides following the architectural design (if it can be called so) of the back of the old Admiralty, which is, in fact, little more than a warehouse wall, though I confess I almost

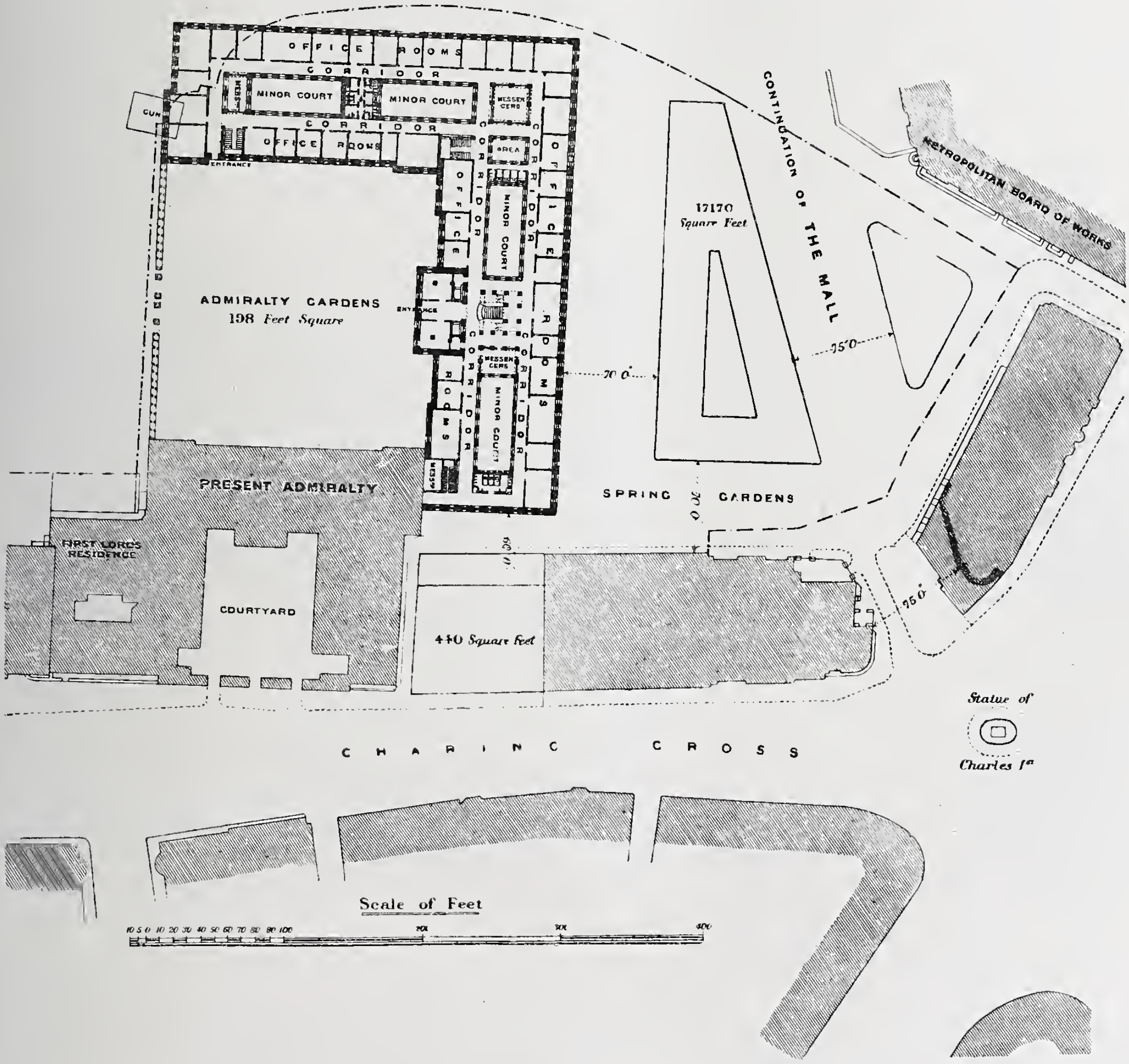
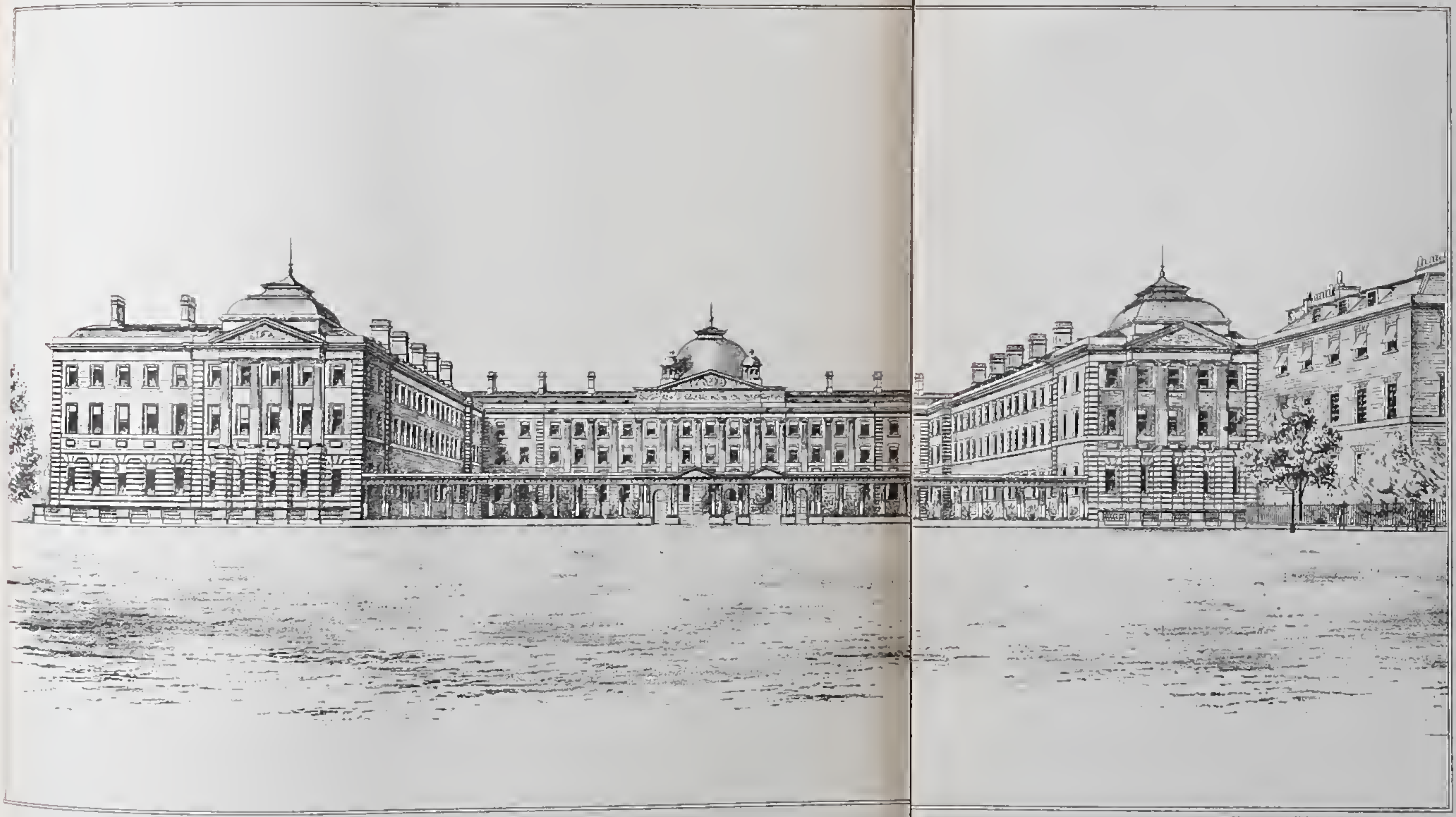


FIG. 3.—PLAN OF THE ADMIRALTY AS NOW BEING CARRIED OUT.

prefer that to the detail on the outer face. It may be admitted that this, reproduced from the lithograph appended to the Report of the Committee of 1887, is not a very good illustration, and does not show the proposed building in the most lenient manner; but, even allowing for that, I ask you whether such a building as this, intended as the official home of the administration of the greatest naval Power in the world, is not something like a disgrace to the nation.

The official plan, which is hung on the screen, shows in connection with this part of the work the opening of the Mall into Charing Cross, and the proposal for a small triangular block of buildings on the island of that shape left between the prolongation of the Mall and the new Admiralty. I only call attention to these points for the moment; we shall have to refer to them again afterwards. We will now come down Parliament Street and consider the proposals there. We are shown there a new block of buildings to be erected on a site between Great George Street and Charles Street, parallel with the Foreign Office block, and on its east front continuing the line of frontage formed by the Foreign Office, and (at last) abolishing King Street. Here are to be housed the Board of Trade, the Education Department, and the extension of the Local Government Board. The latter is appropriately proposed to be placed at the point nearest to the present Local Government Board Offices, and it has been proposed, I think, to connect them by a subway. In regard to this I will just remark, in passing, that the connection would be far better made by a bridge than a subway, for both practical and architectural reasons; by a bridge the connection can be made on the principal floor of the buildings instead of compelling people to dive down to the basement, and it affords a legitimate opportunity for a picturesque architectural incident, and such opportunities should never be lost sight of. By a bridge I mean of course an architectural bridge, forming part of the architectural design—not an iron tube. As to the site and the general scheme for these buildings there is no objection to be made; the courts are indeed too small if they are to be used to light rooms, but from the proportions it would seem that most of them may be used only for lighting corridors and staircases, for which they are ample. If it is contemplated, however, to use any of these courts as light to the offices, I must repeat that they are too small for that; the largest is not 100 feet wide; three are 70 feet wide; the remaining one is under 50 feet. Now, for reasons of architectural effect (and this is a point not to be forgotten), it is absolutely essential that the new block of buildings here should in its main features range with the Foreign Office block; that it should be the same height, and should harmonise with it in general architectural treatment. If this is not done—if a plain building, of lower elevation, is to be erected alongside of the Foreign Office—the whole architectural effect of this portion of Parliament Street will be ruined: that stands to reason. Therefore, these courts must be nearly 90 feet high, and at a width of 70 feet will be mere wells, regarded as lighting-places for habitable rooms; they will only do as stair and corridor lights. While the scheme is good so far, one cannot help pointing out, however, the serious loss which has been sustained by the omission of the Government to purchase the whole of this site between Parliament Street and Delahay Street when it could be had. As things are now, extension of part of the building westward is blocked by the important new building of the Institution of Civil Engineers. But for this, the new offices here might have been built with the same fine and spacious quadrangle as we see at the Foreign Office, and the two buildings would have stood, as it were, on the same architectural level. Now the chance of that is lost, for one could hardly think of compulsory purchase of such a building as the Institution of Civil Engineers, only just completed.

The Report of the Special Committee contains an alternative scheme in regard to this block of building, which is indicated in fig. 5, and in regard to which two or three witnesses



[illegible] LITHO 6 FURNIVAL ST HOLBORN E.C.

FIG. 4. VIEW OF THE NEW ADMIRALTY BUILDINGS AS INTENDED.

were examined and cross-examined. It appears to have occurred to the wisdom of some one that if the Parliament Street part of the new buildings were recessed behind the frontage line of the Foreign Office, and also turned at an oblique angle as shown on the plan, where B represents the proposed altered frontage, it would be possible to see the whole north side of Westminster Abbey from a point 80 yards higher up Parliament Street than it would be seen if the building frontage were formed at the dotted line A. In order to effect this important object, it is seriously proposed to destroy the architectural parallelism of Parliament Street, to destroy the architectural symmetry of two great buildings, and to seriously injure the proposed new building by throwing away a considerable portion of a site which is already hardly large enough for its purpose. That is a brief statement of the case, and the fact that such a blunder should be seriously proposed, and should emanate, as it evidently does, from some official or Parliamentary source is a curious instance with how little wisdom the world is governed in regard to these questions. Let any architect look at the two plans of frontage, and he will have no doubt as to the result. Can one imagine anything worse than the effect of breaking the line of street just below where its straight line has been fixed and emphasised by the front of the Foreign Office, losing all the dignified architectural effect of the two fronts taken in connection, and substituting a cramped irregular plan, in the building itself, for a regular and symmetrical one? It is a piece of architectural lunacy, and that is all that can be said about it.

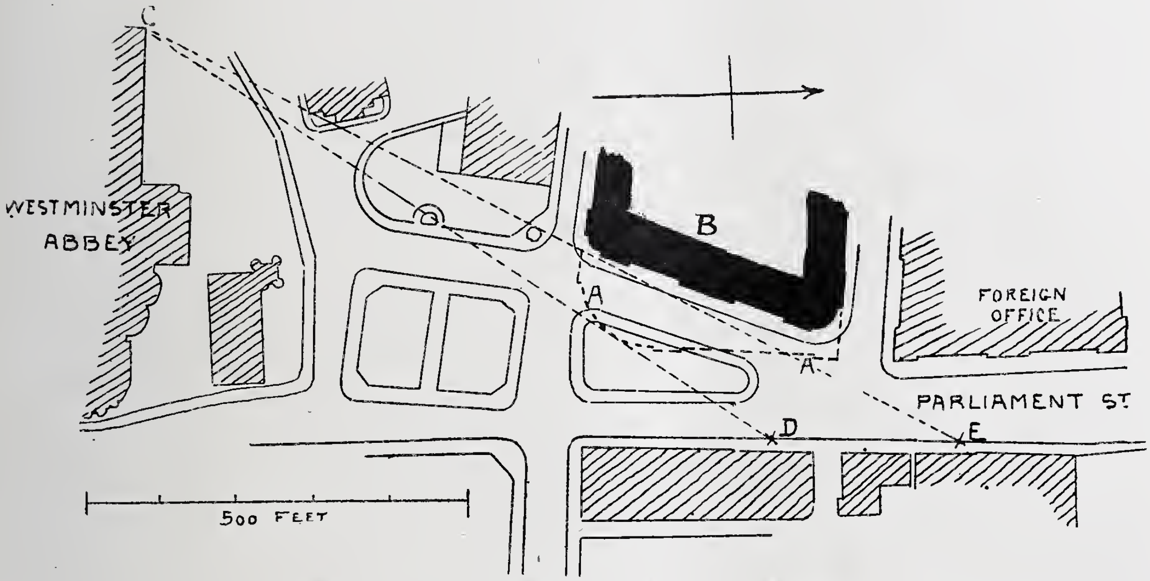


FIG. 5.—PROPOSAL FOR ALTERING THE LINE OF PARLIAMENT STREET.

We now come to what may be considered the main question—the situation and architectural treatment of the War Office. In regard to this Lord Lansdowne gave evidence before the Committee in reference to three sites—the Great George Street site, which we have just referred to as intended for the Board of Trade and Education Offices; the Downing Street site, which means the whole site occupied by the Treasury buildings and those behind them; and the Carrington House site. The money for this latter site has been voted, and I was told by a well-known member of Parliament that it was therefore useless to discuss the subject, as it is all fixed. This is a kind of Parliamentary *non possumus* with which we are all familiar; it amounts to this: "We have passed a vote to do a foolish thing, so we are bound in honour to do it." The War Office, however, is not commenced, nor do I take it that the mere purchase of the ground for the purposes of a Government building necessarily ties the authorities to build one particular Government building on it more than another. I think the object of such votes has been changed before now, without any imputation of high treason against the majesty of a Parliamentary vote. If I am not mistaken, the originally intended site for the War and Admiralty Offices in the last competition (that shown in fig. 2, p. 293) was passed by a vote in Parliament before it was abandoned for the cutting-down process and the retention of the old Admiralty. One would like to know, too, why this vote for the Carrington House site has been so suddenly and rather unexpectedly put and carried. I have some reason for asking that question, since I was told by the First Commissioner in December last that after the Christmas recess the Committee would sit again, and I was asked if I would give evidence before it: and of course I expected that other and more important architectural evidence would be taken. But nothing has been heard of the sittings, and no evidence of any architect has been taken except that of the Surveyor to the Office of Works. That is one important point to notice, because this last Committee is the only one on Government buildings in which no outside architect's evidence has been taken, and that fact seems to argue a new departure on the part of the Government, a resolution to neglect architectural considerations more than ever in the future. Surely, in considering a subject in which the architectural improvement of London is so much concerned, it ought to be a duty on the part of a Select Committee to obtain the best architectural evidence they can.

In regard to the three sites mentioned, the Great George Street site would have been a splendid one if the War and Admiralty Offices could have been combined on it, as was once intended; but that cannot be done now, because all the ground cannot be had. For the War Office alone it would still be an excellent site, in an architectural sense; but Lord Lansdowne's evidence is that it is too far from the Admiralty, the position of which must now be considered fixed; and that is obviously true. Lord Lansdowne considered the Downing Street site a very attractive one in itself, but he was afraid that the necessity for finding quarters for departments already housed in the buildings there, before they could be pulled down, would lead to a very long delay, and he was urgent that quarters should be found for the War Office as soon as possible, and no wonder; they have waited long enough in all conscience. Nevertheless, there are points in connection with that site that are worth notice. It would be possible, by placing the War Office there, still to carry out in a modified form that fine suggestion in Barry's plan [fig. 1], the War Office and the Admiralty Office on each side of the parade, with the Horse Guards centrally between them. Barry's scheme would have to be modified somewhat, because the War Office in its present development would require rather more space than Barry then allowed for it; consequently the two wings, War and Admiralty, would have to be brought closer up to the axis of the Horse Guards, and the parade ground somewhat curtailed. The Admiralty would have to have a south return wing to correspond to that of the War Office, and the portion of the new Admiralty already built could be incorporated in the building, only refaced with stone to take its part in a finer class of building. I have not made any plan of this arrangement, because it is sufficiently explained in Barry's plan; but on the official plan on the screen I have dotted the lines on. If it were not for the question of delay (and we might almost say that the War Office, having waited so long already, might wait a little longer to give time for a better solution of the problem), there is no reason whatever why the War Office should not be placed here—certainly the most appropriate site—and the offices required to replace those now on the Downing Street site be built on the Carrington House site. Lord Lansdowne evidently preferred the Downing Street site in itself; only he said he regarded the Carrington House site as "a bird in the hand."

If such a scheme were carried out it would mean the removal of the Treasury block facing Whitehall. It would be impossible to incorporate that with a large new building of the best class; the interior is hopelessly bad, and it would hardly be possible to work the exterior into any general design for a building with loftier rooms. Moreover, I doubt whether it is worth it. It is a patched and altered front already. It would be very desirable to save the interesting house front, of Kent's design, towards the parade, but it is to be feared that could hardly be possible. But whatever alterations may be made on this site, I think the little façade and domed entrance-hall of Dover House might be and ought to be preserved. There is nothing much in the street front, certainly; but the domed hall, with its semi-circular flight of steps, is a very pretty little bit of architectural design, and I suggest that, whatever is done on the Downing Street site, that merits preservation just as much as the Horse Guards, and its preservation would present no difficulty: it is in a corner position, and could in any case be utilised as an entrance-hall to one of the departments. At present the official plan for the Downing Street site shows only the addition of a few new buildings, in a very awkward and irregular form, to westward of the old Downing Street buildings. I do not think, however, that this group of buildings can be left as they are, with merely a few patched-on additions, for an indefinite period, whatever is done with this site, and therefore it is not out of place to refer to the point.

We now come to the proposed plan for the War Office on the Carrington House site [fig. 6, p. 300]. The first objection that I have to make to this is one which applies also to the small triangular block of offices shown in Spring Gardens, which has been already referred to. The idea in the Office of Works, in arranging a site for a public building, appears to be to run the lines of street in the most convenient manner for traffic, and then to let the proposed building take any shape that may be left by the intersecting lines of roadway. Such a method of arranging the lines of a great public building is utterly ridiculous and contemptible. It is bringing the architectural treatment of the building down to the level of the Grand Hotel, that shapeless mass which fills up the space between the ends of the Strand and Northumberland Avenue. Such a plan is not an architect's plan, it is the typical estate-agent's plan. The architectural lines of a great building are not to be regulated by the street curb. If the outline of the land is irregular, the point is to see in what manner the building can be planned, so as to take a definite architectural form while utilising as much of the land as possible. I have placed two block plans on the screen to illustrate this. A is the Office of Works plan; B represents an architectural plan arranged so as to make use of most of the land without making the building a mere shapeless block defined by the margin of the roadway. You do not utilise so much of the land that way? No, you do not; but in the case of a great public building there is something else to be thought of besides utilising every foot of the land. It is not to be treated like an hotel company's premises, in which every foot of land is expected to make a commercial return. That is a wretched way to treat a national building; and it is important to notice that, as far as I have looked through former Reports of Select Committees on Government buildings, this is the first time that I have seen any plan proposing to treat an important Government building in this manner. That is a significant fact, for it shows that in regard to official notions of public architecture we are going from bad to worse. In addition to this, the site would be overbuilt, both on architectural and sanitary grounds. The small courts shown are no doubt intended merely as lights for corridors, but, from the arrangement of the plan, the square court, and one side of the triangular court, must be intended to light rooms, and they are too small for that; and the square court, which forms the principal internal area, and into which carriage entrances are shown, is emphatically too small for any dignified architectural effect. Every one will remember the general effect and porportions of the courtyard of the Foreign Office; that, as

I have already mentioned, is 240 feet by 170, and here it is proposed to give the new War Office an interior court of 105 by 100 feet, for a building five storeys high. In order to emphasise this point, I have had a block model made to scale, to show the relative proportions of height to width, taking the building as the same height as the Foreign Office. Seeing is believing, and I think it is worth while to put this before you in the round, so to speak, and perhaps those present who are not architects will get a better idea of the facts than they will get from a flat plan on paper.

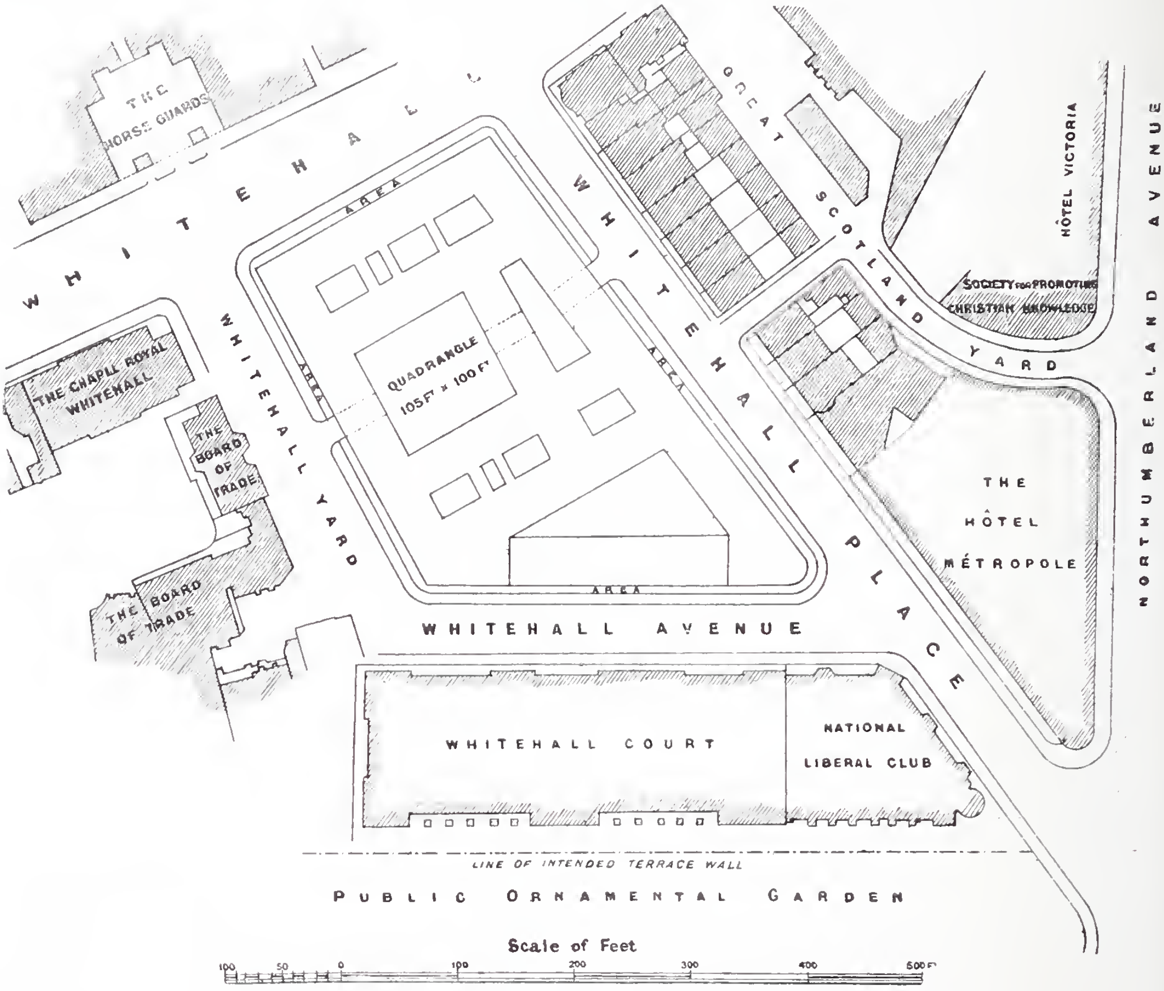


FIG. 6.—OFFICIAL PROPOSAL FOR WAR OFFICE SITE.

In short, I assert most emphatically that the scheme proposed for the War Office on this site is bound to be a miserable architectural failure, even if the site will not be overbuilt in a sanitary sense, as I think it will. Instead of being a public building worthy of a great nation, it will be and can be nothing better than an ordinary block of flats or a monster hotel. If it is considered that the Government are pledged to this site for the War Office (though I can see no reason why it should be considered that they are), there is at all events nothing in logic to prevent their buying more land in connection with it, so as to have the possibility of making something like a worthy building of it. In fig. 7 I have sketched out a block plan, hurriedly done (for, owing to circumstances, I have had to read this Paper a fortnight earlier than it was at first announced), as a suggestion of what might be done to extend the site and to place the building on more architectural lines. Assuming for the moment that the Admiralty scheme, with the retention of the old Admiralty building, is not disturbed, I have shown the northern portion of the War Office design with a courtyard facing the Admiralty courtyard, so as to bring them into definite architectural relation with each other. You build up the end of Whitehall Place; but Whitehall Place is not requisite for traffic connection with Whitehall when you have the new Horse Guards Avenue close to. It is a middle road to Charing Cross Station and the Embankment, which is not required. Vehicles coming from the north find the shortest route down Northumberland Avenue; vehicles coming from the south take the line of Horse Guards Avenue and Whitehall Court. The middle route along Whitehall Place is absolutely unnecessary. It will be seen, on the other hand, that I have given extra width to Horse Guards Avenue, not only to give extra roadway, but for another reason, which I hope that architects at all events will see without explanation. From an architectural point of view it is perfectly absurd that a new road should have been made facing an important historical building like the Horse Guards, and called "Horse Guards Avenue," and made out of centre with the building. In Paris such a plan as that would be laughed at. In London, on the other hand, we seem to be absolutely blind to every question of axial alignment. I have shown the road here made so as to centre with the Horse Guards, with a site for a statue or monumental group on the axis line; and having got that wide road, you might plant it with two rows of trees and so make it an "Avenue" in reality and not only in name. You say it is throwing away land? That is an argument that is all very well in the case of back neighbourhoods, but in dealing with the architectural treatment of an important portion of a capital city you *must* throw away land in many instances—throw it away in a pecuniary sense, that is—if you are to do anything really dignified and first-class in the way of public improvement. In regard to the extension of the site northwards, I gather from a conversation I had with Mr. Arthur Cates, who knows more about property in this part of London than most

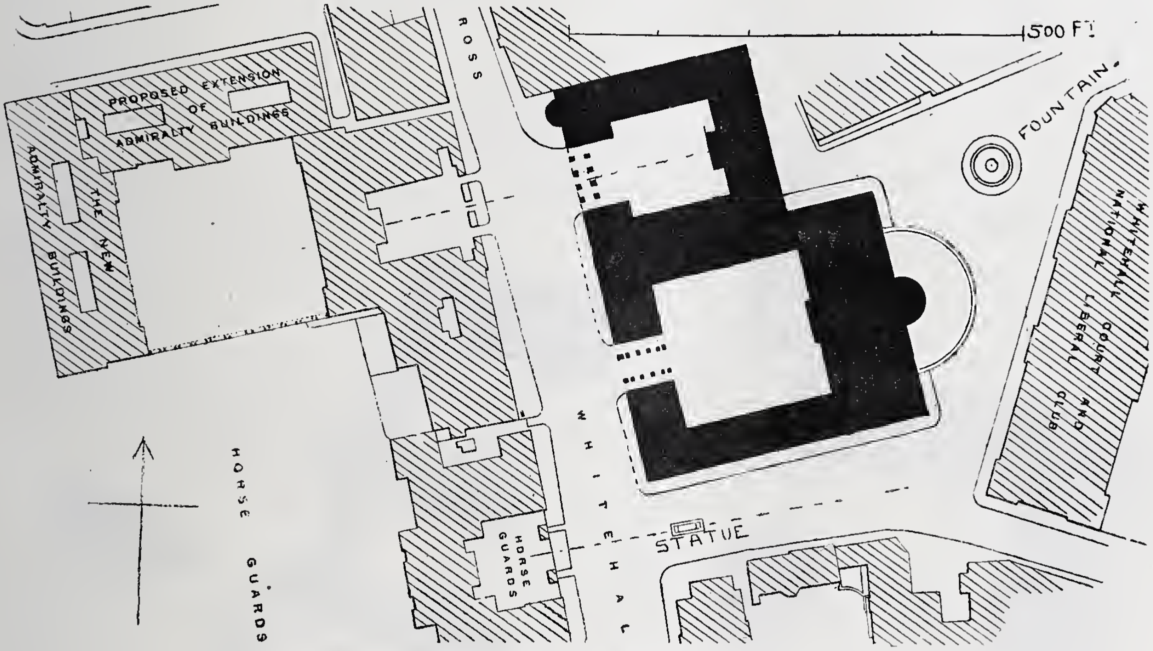

PROPOSED EXTENSION OF ADMIRALTY BUILDINGS
ADMIRALTY THE NEW BUILDINGS
ROSS
500 FT
FOUNTAIN
WHITEHALL COURT AND NATIONAL LIBERAL CLUB
WHITEHALL
STATUE
HORSE GUARDS
HORSE GUARDS

FIG. 7.—SUGGESTED EXTENSION OF SITE FOR WAR OFFICE, RETAINING THE OLD ADMIRALTY.

of us, that there is nothing but money in the way of acquiring that land. I put it that at all events that plan shows a possibility of making a War Office which would have architectural dignity and impressiveness, besides having a direct architectural grouping with the Admiralty;

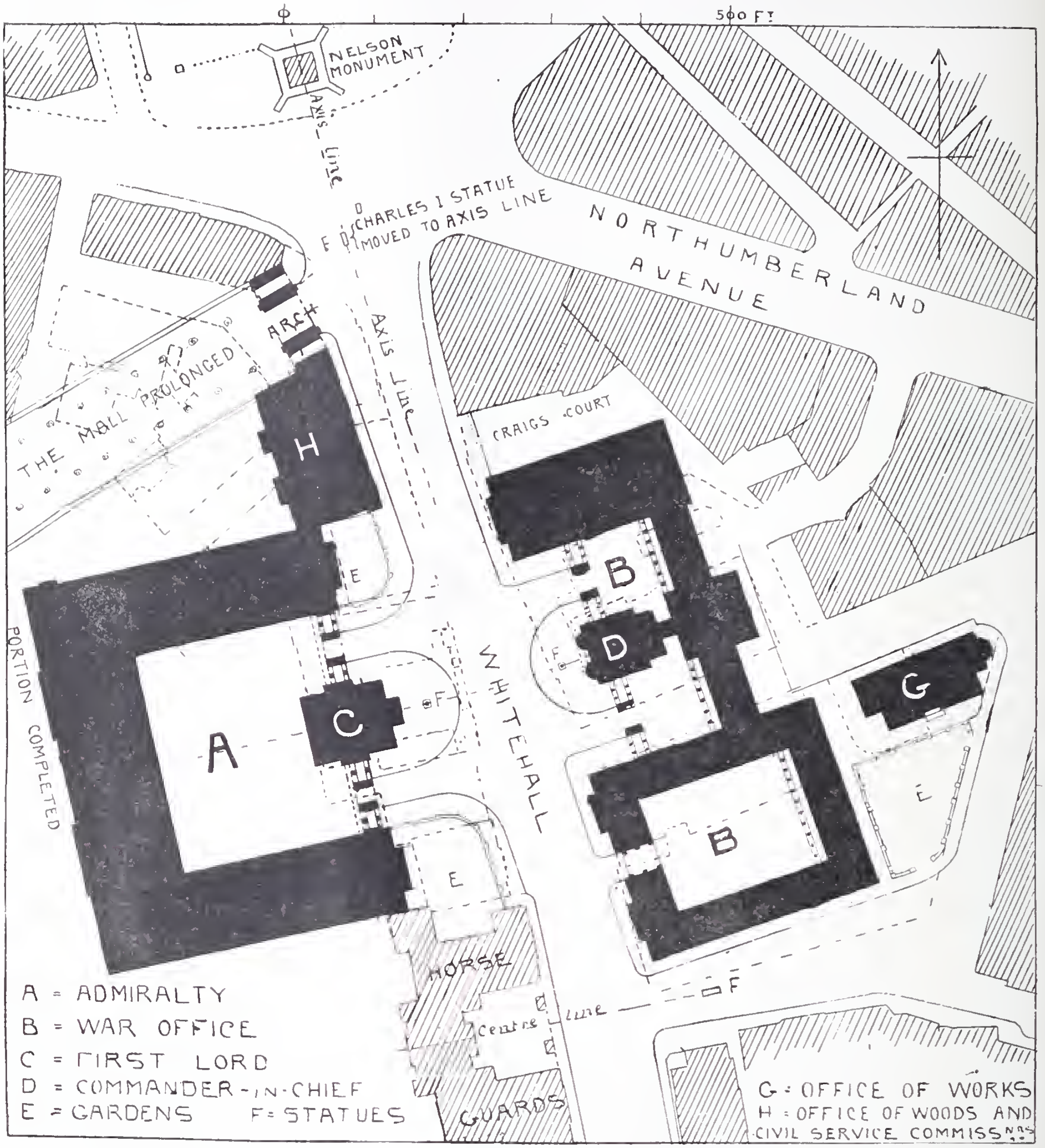


FIG. 8.—SUGGESTED PLAN FOR WAR AND ADMIRALTY OFFICES AS ONE GREAT SCHEME, REMOVING THE OLD ADMIRALTY BUILDING AND WIDENING WHITEHALL.

and there is not the remotest chance of that with the official plan, which can only give us an ungainly lump of building in architectural relation with nothing at all.

When one gets on the fascinating ground of what might be done, if the money were only voted, one is tempted to try a flight further. In the plan on fig. 8 I will suppose the old

Admiralty building to be abandoned, and that we are going to try to do something really grand and stately with our Admiralty and War Office in architectural relation with each other. The new block of the Admiralty already built is retained; the north return wing is built on the foundations, of which the concrete has just been put in; the new block is continued southward a little way, and a symmetrical return wing built coming up to the Horse Guards. The First Lord's house forms the central object on the fourth side of the quadrangle facing Whitehall, with a screen entry on each side of it. For the War Office we will buy up all the east side of Whitehall up to Craig's Court, leaving Craig's Court, however, as a wide court instead of the present narrow alley. There we build it with a similar but shallower courtyard responding to the Admiralty quadrangle, with the Commander-in-Chief's residence, or his staff offices, whichever you like to take it, as a central house facing the First Lord's house. The southern portion of the War Office forms a quadrangle as before—not a very large one—but as on three sides of it the passages would look into it and not the rooms, it is amply large enough in that sense. Behind this portion of the War Office we will utilise the projecting triangle of land by there rebuilding the Office of Works, almost on its existing site, in which there is a certain sentiment of fitness. Then, returning to the main street, we will set back the whole of the west line of street above the Admiralty to a new line (I have shown the existing street line dotted on the plan), so as to make the street the same width all the way up, and to bring it, at the top, central with the axis of Trafalgar Square, as defined by the centre lines of the National Gallery and the Nelson Monument.* The axis of the street would be at a slight angle with the axis of Trafalgar Square, and at the meeting-point of the two axial lines we will place the Charles I. statue, which only has to be moved a few feet to be central with both of them. We will complete the street north of the Admiralty by two or three new official houses, which will provide for the Woods and Forests, the Civil Service Commissioners, and perhaps another minor department. What! I think I hear the official economist replying, you would have us buy up and pull down such buildings as Biddulph's and Drummond's banks to alter the street line? I answer, Why did not the Government buy up the sites of those banks years ago, before the banks were built? Long ago you might have had those sites in your possession at a moderate cost; the importance of securing them was pressed upon you, and they were allowed to go, like a number of other things that might have been secured, through mere indifference and want of foresight.

The plan shows the Mall prolonged into Charing Cross, at nearly its full width, and with an archway entrance, as suggested in Barry's plan. The official plan also shows the Mall prolonged into Charing Cross, but in a mean and ineffective manner, like a bottle-neck, the small end forming the entry. *That* is not the way to do it. This has been done, again, to save Drummond's bank, a building of most uninteresting architecture, quite unworthy in that sense of the exceptional position it occupies. In regard to this question of the Mall, evidence was given before the recent Committee by Police-superintendent Beard in opposition to the proposal to carry the Mall through at this point, because, he said, it would be very disadvantageous to heavy traffic to emerge from the Mall on to the slope of Charing Cross; and that the exit from the Mall ought to be brought out at an angle northwards into Trafalgar Square, past the east side of the present County Council offices; and the Committee seems actually to have been prepared to seriously consider this evidence. Is it seriously proposed that the Mall is to be delivered over to heavy traffic, and to become an ordinary London street? If so, I think most of us would agree that it would be much better left closed. And, secondly, what is it supposed is the main object of opening the Mall into Charing Cross—an improvement which has been talked of for years? Why, to get the fine effect of the vista of the road and the trees from one of the most crowded corners of London. That is the object with which it was at first proposed, as a great improvement to the beauty of London—an object which would be entirely frustrated by turning the exit up northwards.

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* It is unfortunate that the new line of the street cannot be parallel with the Admiralty, because the block already built is not parallel with it. I have endeavoured to mask that in front of the Admiralty wings by the curved balustrades enclosing gardens.—H. H. S.

If I have spoken strongly as to the inadequate treatment of the Government offices, both in regard to the past and what is proposed now, it is because I feel that it is a subject of national importance. It is unworthy of a great country that the buildings which are erected out of public funds and for public purposes should be carried out in a mere utilitarian manner, without any regard to architectural beauty, or without any regard to the placing and aligning of them so as to provide for the architectural laying-out of the capital city in a stately and effective manner. It is not only unworthy of the country, but it is in the long run a serious injury to it. Part of the position which a country takes among the nations is affected by the character and scale of its architectural monuments. Suppose that, when the old Houses of Parliament were burnt, a mere utilitarian building had been erected by the Office of Works, as was at first intended, instead of the present Westminster Palace. Try to realise what the difference would be to London at this moment. The Government offices is only the same question on a smaller scale. But instead of wishing to carry them out so as to add to the architectural grandeur and attractiveness of London, there seems to be a constantly increasing desire now to do nothing more than is barely necessary, to eliminate all considerations of architectural effect. A well-known writer remarked the other day that London was not a city, it was only a collection of houses. That is what the action of our successive Governments in regard to the public buildings is tending more and more to reduce us to. It is not a good sign. Architecture is not everything; there are other arts of equal or perhaps greater interest; but there is no other which is so much bound up with national life, and which is so symbolical of national greatness or the reverse. Look at history, and we shall see that wherever there has been vigour, ambition, a spirit of hopefulness and success in national life, there it has given itself visible expression in great buildings. What was the Parthenon, the most perfect work of Greek architecture, but the expression of the efflorescence and glow of national pride and joy after their great victory over Persia? It was to the Norman conquerors of this island that we owed the foundation of nearly all our great cathedrals. Wherever you look you see the same. Even the Germans, since their stupendous military success in 1870, have become architectural enthusiasts, and have been erecting Houses of Parliament and costly monuments everywhere—not very beautiful to our eyes certainly, but they may be beautiful to the German eye—at all events, they do their best. A nation which is indifferent to its architectural monuments is going downhill; and we must be in a bad way when it has come to the point that the attitude of our Government in regard to every question of art and architecture reminds us of nothing so much as the definition Mephistopheles gives of himself when Faust asks him who and what he is—"that which says no to everything"—

> I am the spirit that evermore denies:
> . . . .
> No! say I. no! to everything that tries
> To bubble into being.

Have the people at large come to this, or is it only the debilitating and demoralising effect of the political atmosphere that brings Governments and Government officials into this state of mind? They will tell us that they are saving money in the public interest. They are mistaken; it is to the public injury, to the discredit of the nation. Nor do I believe that the

English public, if it were fairly put before them that noble buildings were a glory to the kingdom, would grudge the free expenditure of money in order to produce them, and to raise London in the scale of capital cities for beauty as well as for extent. I do not think it ever is properly put before the public; the matter is settled as a move in a political game, in which the main object is to show a better Budget than your political opponents. And in this respect there has been a distinctly downhill progress during the last quarter of a century. When the Foreign Office competition took place we wanted to do something fine; we did not quite succeed, but the point is that we wanted it. Now we do not want it. Let me read this bit of question and answer from the evidence before the Committee of 1858—questions put by Sir Benjamin Hall to Mr. Angell, one of the professional assessors in the competition:—

> "Do you not think it an advantage, rather than otherwise, that your national buildings should have a distinctive character, as compared with your street architecture; as compared, for instance, with your warehouses, or even the guilds of your companies?—Yes.
>
> "Do you not, therefore, think that in all our public buildings we should aim at a grander and a more magnificent style than you would adopt for buildings of less importance?—No doubt.
>
> "Even although, in attaining that object of magnificence and of effect, we have to incur some little extra expense?—Yes.
>
> "Do you not think that it is desirable to stamp the age in which we live by the peculiar style of our public buildings, so that, centuries hence, the style may be known by our public buildings?—Yes."

We hear no such questions now before a Select Committee—we have changed all that. The inquiry is only as to how it can be done cheapest. The Government have got a chance of doing something to redeem the long series of blunders with our Government offices, by endeavouring to make a fine thing at least of the War Office, and by re-casing the part of the Admiralty already built, and building the rest after a finer design. It may be said that is a very unusual thing to do. So it is, but it is unusual for any Government to erect such a wretched building for a great public department. To re-case it is a perfectly possible proceeding, and it is the only way to make a decent thing of it except by pulling it down bodily; and as the inside is well planned and substantially built, that would be a pity. As to the War Office, the Government tell us that they have already thrown away their chance; they have not done so, unless they choose to think so. It is still in their power to extend the site, and to get an architect of genius to erect on it a building which would be a credit to the country, which would have some of that architectural grandeur and power of expression which the very idea of a War Office seems to suggest to the imagination. If, instead of any such attempt, we are to have only a wretched utilitarian War Office building to form a pendant to an Admiralty building which is no better, the finishing touch will be put to our architectural degradation, and we can only sum up the history of our official architecture during the last forty years in the words of the Psalmist, "They have made us a byword among the people, a very scorn and derision to them that are round about us."

DISCUSSION OF MR. STATHAM'S PAPER.

The President, Professor Aitchison, A.R.A., in the Chair.

Mr. H. W. BREWER proposed a vote of thanks to Mr. Statham for his very admirable and most interesting Paper—one of greater importance than which could not be conceived at the present time. The question had come to this: Are we, or are we not, to have public buildings? The general feeling of most Englishmen appeared to be that we were not to have public buildings, and that had been the case for many years! It was a well-known fact that the objection to enlarging and making proper provision for the increased requirements of the Houses of Parliament led to the fire. Sir John Soane and other architects over and over again called attention to the fact that the system of cutting up the different apartments into three or four by means of lath-and-plaster partitions really made the place so dangerous that if a fire occurred the whole building would be destroyed. That catastrophe did take place, and for a time our countrymen saw the error of their ways, and came to the conclusion that something like public buildings should be erected. About that time there was a terrible example of what happened in England from the neglect of providing such edifices. At that period the Records and "Rolls" of the country were kept in about sixteen or eighteen different buildings; in cellars, in garrets, in all sorts of out-of-the-way places, a great deal of harm was going on, many of the records being destroyed. Probably nothing would have been done to build the new Record Office or to provide a place for the National documents had it not been that a Committee of the House of Commons had some of these records brought before them to be examined: they tried in vain to open three or four, but the damp had made them solid! However, at last they succeeded in opening three very large "Rolls," and found therein the complete skeletons of three great rats! This had an effect upon the Committee, and the Record Office was at last built. With regard to what Mr. Statham had said about the Admiralty, the old Admiralty building was not very interesting, but the Board Room was a very beautiful apartment, and he was sure Mr. Statham would desire its preservation. As to the necessity for the prolongation of the Mall, one difficulty about the proposed Jubilee Procession sufficed to show it, for, owing to the fact that there were no means of reaching the Mall properly from the Strand, Charing Cross had to be cut out of the line of procession, which thus would not be able to pass the most important point of the Metropolis, because there were no means of getting back to Buckingham Palace from that point.

Mr. WILLIAM WOODWARD [*A.*] said the subject was one in which he had taken a great interest for many years, and some twelve years ago he had read before the Institute a Paper connected with the subject brought before them by Mr. Statham. He regretted he had not been favoured with a *résumé* of Mr. Statham's Paper, and for that reason the few remarks he had to make would necessarily be somewhat disjointed. Mr. Statham had been very hard upon the Office of Works, and also distinctly unfair. With regard to the plans, Mr. Statham knew, or should have known, that they were prepared very rapidly in order to be brought before the Select Committee which sat last year. In the evidence before that Committee Mr. John Taylor stated that the plans were only made as sketch ideas, and were not to be taken as indicating the careful thought of the Office of Works. That observation with regard to the scheme of the Office of Works was particularly applicable to the matter of the areas. Mr. Statham complained bitterly of the inadequacy in area of those internal courts; but Mr. Statham should know that not one single elevation or one single section had been produced by the Office of Works; and therefore, when he spoke of the effect as regards height, Mr. Statham knew that there was not a tittle of foundation in the evidence before the Select Committee to warrant the observations he had made with regard to height. With regard to the architecture, it was very easy for any one to complain of the architecture of the Office of Works or of any other Office; but let them compare the architecture of the Office of Works with the architecture of three of their most distinguished architects with regard to the erection of public buildings in London. Mr. Statham had referred to the Foreign Office and to the Admiralty, and he (Mr. Woodward) agreed practically with all he had said with regard to those Offices. But the reader of the Paper had omitted all reference to another very important building—one that had called forth most adverse criticism from those who had to use the building—he referred to the Royal Courts of Justice. That building was designed by one of their most eminent architects, but in that case, as in the case of the Foreign Office, the despised Office of Works had to go in and put right what those eminent architects had left wrong. Therefore such criticisms on the Office of Works, particularly with regard to those plans, were, he thought, distinctly unfair. To go somewhat into detail, Mr. Statham had mentioned the connection of buildings by subways, and said that a bridge would be preferable. Certainly a well-designed bridge might be so, but Mr. Statham should know, and did know, with regard to subways, that the question of getting to the higher parts of a building was now settled by passenger lifts, and therefore there was not much in that. The next point was with regard to the absence before the Select Committee of the introduction of outside architects for advice. He (the speaker) was a member of the Institute, and was tolerably acquainted with the works of members of the Institute, and he should like Mr. Statham to name the gentleman or gentlemen he would suggest as being better acquainted with the requirements of public offices than the gentlemen of Whitehall Place. Their information on these subjects was very extensive, and they were perfectly capable of advising the Government upon the question of planning. He had suggested in the newspapers, and he suggested again, that, notwithstanding the failings of our most eminent architects, in this case, so far as architecture was concerned, there was an opportunity for a competition to be open to the world—a competition in which, if it liked, the Office of Works itself might take part. Mr. Statham advocated the retention of Dover House, and met with that enthusiasm which might be expected from members with regard to its retention. How any man could advise the retention of such a wretched building as Dover House was beyond his comprehension. All he could say was that if any Government scheme suffered by any attempt to retain Dover House, he trusted that the next Government scheme would not take place within his lifetime. Coming to the practical part of the Paper, let them consider the plans themselves. They were now dealing with a subject that could be dealt with by practical men. Mr. Statham suggested a scheme as regards the design of a block, Plan B.* Could anything more undesirable be imagined in Mr. Statham's Scheme B than that ugly projection at the corner, without any harmony whatever, without any balance of form with the rest of the building? That was the plan Mr. Statham considered so much superior to the wretched estate-agent and auctioneer's plan of Whitehall Place. He trusted that, whatever rearrangement of the plan might be made, they would not get such a hideous excrescence as that scheme of Mr. Statham's. Then Mr. Statham proposed his scheme [fig. 8], in which he gave a plan that had not the remotest chance of ever being realised, or of even being considered by the Select Committee. But supposing any Government did consider Mr. Statham's plan [fig. 8] for a moment, was it to be supposed that the Government, who were the guardians of the public purse, would waste this enormous area of land in providing buildings occupying so minute a proportion of the area as those shown by Mr. Statham? Consider the architectural effects of Blocks C and D which Mr. Statham proposed in his plan. Those blocks placed in the midst of those immense quadrangles were exceedingly ugly and unarchitectural. Then he proposed to widen Craig's Court and to open up a *cul-de-sac*. If that were the acme of Mr. Statham's idea of architecture, all he could say about it was that they might just as well continue Craig's Court into Northumberland Avenue, and then they would get an avenue at all events healthy and proper, in place of this. The whole subject demanded most careful attention on the part of architects; it was an opportunity for architects to show at least and at last what they could do, and he trusted the Government would pursue their course in the Select Committee, and that they would give attention to men so fully qualified in planning Government offices at the Office of Works, and that the architecture would be left to competition to show the Government what architects could do in the way of exterior design. In conclusion, although he disagreed with Mr. Statham, he could not but thank him for the care and attention and the time he must have expended on the subject, and therefore he begged permission to second the vote of thanks.

Mr. E. W. MOUNTFORD [*F.*] said that one or two points in connection with what he supposed might be called the north end of this neighbourhood had been under the consideration of the Art Committee of the Institute, and it had been the intention of the Committee to devote an evening to a discussion of the proposed site of the County Hall for London, but the rejection of the Bill by Parliament knocked all the interest out of the subject. Mr. Statham referred slightly to the lengthening of the Mall, and the necessity for carrying it right through in its whole width, instead of being narrowed to seventy feet, as shown upon the official plan. It seemed perfectly obvious that if it was to be carried through at all it ought to be continued its full width; and it should certainly bend more northward at its eastern extremity in order to continue the line of the West Strand. As shown upon the plan, people coming eastward along the Mall would have in front of them for a long distance the Grand Hotel at Charing Cross, which no one would care to look upon longer than was absolutely necessary; whereas if the Mall were curved towards the north a view would be obtained of the Strand and a part of Trafalgar Square. Coming south, it did strike one that, while the Government were about the matter, it was most desirable to remove the Bank to which Mr. Statham had referred, and widen the whole street on its western side, so that the north end of the street might centre with Nelson's Column and the National Gallery. Continuing still further south, one came to the proposed site for the War Office. It appeared obvious that whoever made the plan of the proposed War Office which was exhibited, if he made it with any idea of showing what was intended, or what was required, must have thought out to some extent the heights and sections of the building. If he did not, why should he indicate areas, of certain shapes and sizes, which certainly would not commend themselves to an architect as being at all desirable? While not agreeing with Mr. Statham in objecting so very strongly to the angle of the building shown on the block plan, he did agree with him that a rectangle was better; but, supposing the value of the site to be so great, there seemed little harm in taking advantage of every part of it in that way, especially when one considered that the opposite side of the road was occupied by Whitehall Court. The widening of the street on the south side of the proposed site would undoubtedly be a great advantage, not only to the proposed new building, but by bringing the centre of the Horse Guards opposite the end of it, thus opening out a fine view of one of the best buildings in all London. When Mr. Woodward spoke with derision of the scheme for the new Admiralty and War Office [fig. 8], he supposed he spoke from the ordinary ratepayers' point of view, and that unfortunately was generally quite opposed to the architect's point of view. He did not wish to compliment Mr. Statham too strongly, but it seemed to him really a fine idea. The manner in which he had grouped the Admiralty and War Office and surrounding buildings was something much grander, he feared, than anything they were likely to get. He failed to see the objection to the suggested houses for the First Lord and the Commander-in-Chief being placed in the positions shown; in fact, he could quite imagine they would make extremely interesting centres to the big quadrangles; but they need not consider the point very much, because the possibility of carrying them into execution was too remote. Going to the southern end of the street, he agreed with what Mr. Statham had said as to the extremely bad effect of setting back the front of the proposed new building at the unpleasant angle shown upon the diagram; but he could imagine that the effect might be very good if it were set back entirely, so as to widen the street, say, 50 feet. Possibly, there might be no particular advantage in seeing the whole of Westminster Abbey 80 yards further up the street; but if the suggested new building were set back 50 to 80 feet, still keeping the front parallel with that of the present Home Office, it would have a good effect, especially if a small garden were made in the centre of the street. It would certainly help the new building, while improving the view of the existing Home Office and Westminster Abbey. Finally, he would like to say one or two words in defence of the two buildings which had been referred to as examples of how eminent architects might make mistakes. It was quite unfair to judge Sir Gilbert Scott's design for the Home Office when one considered that even to the present day it remained unfinished. Certainly it would look very much better, if the two flanking towers were finished, than it did now, with an iron gaspipe as the topmost termination of its two most important angles. Then one must remember the Government of the day, with that facility for doing the wrong thing in architecture which our various Governments equally seemed to possess, selected an eminent architect, the then leader of the modern Gothic school, and forced him, much against his will, to carry out an Italian building, just as years before they employed Sir Chas. Barry, the greatest Classic architect of the century, to carry out a Gothic building. Of course it might be conceded that Sir Charles Barry, with the assistance of Mr. Pugin, produced a finer Gothic building than Sir Gilbert Scott did a Classic one; but he was bound to say that in his own very humble opinion the Home Office was a very good and dignified building, judging it merely by the exterior. Of the interior he knew little, therefore expressed no opinion. In that room he need hardly defend Street's design for the Law Courts. However one might criticise it, no one could deny that it was a great building; and its faults were not so much the faults of Street as of Mr. Ayrton, who badgered him incessantly and hampered him in all sorts of ways. If Street had had sufficient space whereon to put the Law Courts they would have been very different from what they were now. All the darkness of the corridors and the rooms was owing to the fact that the buildings had to be crowded together; if there had been a sufficient site the rooms would have been light enough. As to the complaints that one heard from judges and other officials, they would have grumbled wherever they were put. That the building was a great deal more convenient than the people who complained about it would admit, he had little doubt. So far as he understood Mr. Statham's Paper, he agreed with nearly everything he had said, and if the Government could be persuaded to regard the designing of our public buildings as a matter of the greatest national importance, and not be content with a merely utilitarian scheme for housing certain departments, it would be a great thing for England and a still greater thing for London, which sadly needed everything that could possibly be done to beautify it.

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* This was one of the two plans placed on the screen, and referred to on p. 299.

Mr. W. D. CARÖE [*F.*], M.A., F.S.A., said he had no intention of adding any words to this discussion, but for the fact that he found himself abolished by Mr. Statham's scheme; the scheme [fig. 8] swept him out of London entirely. At the same time, in wishing to add his meed of thanks for Mr. Statham's excellent Paper, which he hoped would be duly brought before the Government officials, and would receive the attention it deserved, although he felt himself abolished, he must say that the plan shown in fig. 8 pleased him very much indeed. There was no reason why Whitehall Place should exist as a thoroughfare, and there seemed to be a splendid opportunity of doing a really fine thing, as Mr. Statham had suggested, even at the expense of keeping the present or partially proposed new Admiralty. In fact, taking the schemes fig. 7 and fig. 8 together, they seemed to him to be altogether admirable. He happened to have gone into the questions relating to the new Admiralty in much detail, and one of the curious results of the cheeseparing policy of which it was an outcome would be, beyond question of doubt, if the figures were compared, that this present scheme, when it was completed, to house the Admiralty only, would cost the nation actually more money than the original scheme which Messrs. Leeming & Leeming had prepared to house both Admiralty and War Office. He was not one of those who appreciated the architecture of the original scheme, or the general placing of the buildings in that position. But at the same time the question of cost was a point that might very well be brought before the Government in endeavouring to urge them to regard these buildings in a broader and more palatial manner. What was to be done with those Admiralty buildings was a question that would soon have to be dealt with. His own view was that the best improvement would be to build a narrow frontage to fill up the south front of the courtyard which was shown in elevation in fig. 4; at any rate he hoped that the Institute would raise its protest to the Government in some form or other against transmogrifying the end of the old Admiralty in the way that was shown to make it correspond with the new wing building in fig. 4. It was curious to notice how different the effect of the old return side of the Admiralty with its quiet return frontage is compared with the copied return on the other side with its facing columns and architecture of that class, a difference which alone was enough reason for not carrying out the scheme as was here suggested. There was one point in connection with fig. 8 worthy of notice. Every one had the greatest regard and admiration for the Horse Guards, and in dealing with the Admiralty or with any building that came in propinquity to the Horse Guards, one was inclined to fear that a large structure might have the effect of dwarfing its small and delicate neighbour. With regard to the plan of the southern block on the screen, he could not help thinking that really the best treatment of it would be to leave out the circular corner and the small courtyard just within the circular corner, and thereby to open out this side of Parliament Square, and the entrance to Parliament Street. This would get rid of the unsatisfactory effect of the convex corner of a large building on a large circle as there represented. He would conclude by again thanking Mr. Statham for the admirable ideas he had put before them. He regarded them as a most excellent contribution to an important subject, and he hoped they would be brought as earnestly as they could bring them before the Government. He noticed in Saturday's *Times* that Mr. Akers Douglas had stated in the House of Commons that the plans for the new War Office were being already prepared. He did not quite know what that meant, but it had an ominous sound, and they ought in some form or other to use such influence as they had to find out the facts, and deal with them accordingly.

Mr. E. W. HUDSON [*A.*] said he was not competent to offer any opinion upon Mr. Statham's admirable Paper, but he would like to call their attention merely as an echo of a voice which, alas! could never be heard again within those walls. He alluded to their lamented Secretary, Mr. White. They had upon their Library shelves a work of his which contained a vast amount of thought and study in relation to the architecture of public buildings, and he was sure that they were at a great loss in not having the opinion of a man of such experience in both the capitals of Paris and of London as their lamented Secretary. The work to which he alluded was entitled *Architecture and Public Building*, and was a comparison of the capitals of Paris and London, and of the methods adopted by the Governments of the two countries for securing grand public buildings, and the opinion arrived at was clearly that they "managed these things better in France." He should be very glad to direct the attention of members to it. He himself had derived very great pleasure and a considerable amount of instruction from its perusal, and he considered it had been thought out in a most careful way, and laid before them in a manner which at this time would be a great benefit to any one interested in the question. He would only venture one observation of his own, and that was with regard to the proposal for stopping up Whitehall Place. It seemed to him that it was the only thoroughfare between the Embankment, and he was going to say Charing Cross, by which one could get just a glimpse of the dome of St. Paul's. He was correct, he believed, in saying that; and in spite of the frightful bridge which cut up that view, it would be a pity if that one glimpse of Sir Christopher Wren's great work were lost.

Mr. JOHN BURNS, M.P., said he had not expected when he entered the room to hear either the Select Committee or the Office of Works criticised to the extent they had been by Mr. Statham's Paper, but his withers were unwrung, and he was not particularly concerned about the Office of Works, who seemed to be quite capable of defending themselves. As a member of the Sites Committee, both of last session and the present, he desired to show that that Committee were not such vandals as Mr. Statham suggested. His own presence at that meeting indicated at least a desire for information, and he wanted to deal with this question, not so much as a member of the Sites Committee as a citizen of London, and one who was anxious to see not only the improvement of Government buildings and their concentration and consolidation, which from the point of view of economy had to be considered, but a re-arrangement of Government buildings from the point of view of architectural harmony and beauty. First, he would say (and it was only right he should correct the reader of the Paper) that it was not the intention of the Committee to exclude outside architects in the giving of evidence; on the contrary, the reference to that Committee would be entirely defeated if they were to do such a stupid thing, and, as one of the Committee, it might be taken from him directly that not only was it not meant to do so, but that he should ask and do his best to demand that outside architects would give them their views. In fact, might he respectfully suggest to the Institute that, on the question of the improvement of Government buildings generally, and the completion of those particular buildings that were to be erected on the land between the National Portrait Gallery, say, and Lambeth Bridge (his ambition led him as far as that), they should elect a council of architects, resident or practising in London, to formulate their views, not on small details, as to what the blocks of buildings individually should be, but as to how the space, say between the National Portrait Gallery and the Houses of Parliament, could be best utilised for Government buildings such as those desired? If they were to do that, and were to select two of their number to represent the broad general view of the architects upon that matter, he was sure it was not too late for their suggestions to have that weight and that authority that they undoubtedly would have, coming from such a body. He was convinced that there were a number of men on the Committee—at least he knew two who had forced the opening up of the Chapter House on the past and present Governments, and had compelled the Government to comply with the spirit of the Building Act, which hitherto they had been exempt from, in the post offices and police stations, and other Government buildings. That indicated at least that some of the Committee were anxious to do their best for the architectural profession in so far that it subserved the interest of the government of London, and, generally speaking, to secure the object which the reader of the Paper had at heart. Roughly, he would give them his views as one of the Committee. He was not yet converted to Mr. Statham's plan, any more than he was in favour of the Office of Works' tentative proposals. He would suggest that Mr. Statham and the Office of Works and others should be put into competition with all the architects who liked to compete for the best block of buildings on land that was not now built upon, and for the competition of those buildings that were only partly finished. He believed the result of such competition would lead to the production of the best buildings—and such they only ought to have. He should like to inform Mr. Statham that on the matter of vista, incline, and approaches to whatever buildings were built upon these sites—because they were not yet a Building Committee, but only a Sites Committee at present, and the statement of that fact disposed of much of Mr. Statham's criticisms—but in point of vista, of incline, and approaches they were not going to be influenced by the evidence of a superintendent of police, who certainly had but little weight in the points suggested by the reader of the Paper. His view, roughly, was this: He believed that from Charing Cross right down to King Street they should have a fine sweep of Government buildings, the frontage, the height, the style, and the character of which he would leave to architects. As a member of the Sites Committee, he was for a fine sweep from Charing Cross right down to the Houses of Parliament, and, of course, with the block in Parliament Street taken away. More than that, if it were possible to be done, he was in favour of pulling down No. 10 Downing Street, notwithstanding the political and personal associations connected with that building, and of having an easy incline into the Park; and on the site of the present Downing Street office, a building in keeping with Sir Charles Barry's original plan, which he shared in almost every detail. They should clear the Treasury out of its present buildings, and have a War Office erected where the Treasury and Dover House and Downing Street now are, leaving the Admiralty to the right-hand side when looking towards the Park, the War Department on the left of the Quadrangle. With regard to the Great George Street site, he believed it was not even now too late for the Government to be able to buy the whole property, including the Civil Engineers' building, which he was very sorry was erected on that particular site, and running right down to Storey's Gate, with those Government offices that were not only desired, but for the completion of which Great George Street and Storey's Gate from an architectural point of view never ought to have been allowed to have gone out of Government hands. Coming to the Carrington House site, it was no secret that he strongly opposed the adoption of the Carrington House site for the War Office; and even though he was beaten he would continue to oppose it. He believed on the Carrington House site, without committing himself to any detailed plan, they ought to have other offices instead of the War Office; in fact, he would go so far as to say that if the Treasury could be cleared out and put upon the Carrington House site, and the War Office occupy part of Sir Charles Barry's splendid front, and other buildings that could be attached to the rear, perhaps that would be the best solution of that question. With regard to the approaches at Charing Cross, he had only this to say. He was a bit divided as to whether they should accept Mr. Statham's view and make the statue of Charles I. the objective, or Nelson's Column—he would leave that to the architects. He had a preference for making Nelson's Column the objective from the Mall. He did not attach much importance to the £50,000 or £150,000 that might be necessary to be spent in pulling down one or two banks. He believed, broadly speaking, that if the Government were strongly and properly approached in the architectural journals and through other channels of information, the House of Commons could be educated up to the necessity, ere it was too late, of dealing with this Government office problem broadly, boldly, and generously. He believed that the Royal Institute of British Architects could even now, at the eleventh hour, do a great deal of good in that direction. With regard to the broad general plan indicated in Mr. Statham's Paper, he would find that many of the Sites Committee—not all of them—were practically agreed. Some of them were not advocates of the cheap and nasty to the extent that the Paper in one or two of its suggestions implied. It was true that politicians, like architects, were circumscribed by their clients, and the amount of money that their clients could spend upon a building. Fortunately for him in discussing that problem he was not tainted by ideas of the cheap and nasty; and as to rates and money he never allowed himself to be influenced by such base considerations in discharging his public duty. So he would suggest to Mr. Statham, in conclusion, that he should get the Institute to adopt his plan and suggestions as the basis for discussion among themselves, to take the whole of the suggested Government plans as only tentative and not decided upon, and that Mr. Statham's Paper should be the basis of a series of good suggestions from the London architects, who should select two of their number as witnesses to go before the Committee. He believed that if it were put, say, a little more harmoniously than it had been put this evening, and that if the architects were not inclined to take up the animated view that politicians alone, he was led to believe, indulged in, he had not the least doubt that Mr. Statham's Paper would have done a great deal of good. Certainly he could say that any proposition that would lead to Parliament Street and the House of Commons, and the approaches to the National Portrait Gallery and to Trafalgar Square being improved would have his hearty support. Mr. Statham himself, he believed, would say after he had given evidence before the Sites Committee that they were not quite so niggardly as he had tried to make out; and if he or other architects could convince them that reasonable accommodation could be provided for at even a generous cost, he would not find the present Sites Committee disinclined to adopt the architects' views, and, if necessary, test the House of Commons as to the necessity and wisdom and the permanent advantage of dealing with the Government buildings in a scientific—might he say a beautiful ?—spirit, and would not in the least shirk telling the ratepayers that the wealthiest country in the world had no right to have its Government housed either in rat-holes or rabbit warrens. If that had not been done in the past to a great extent, it was because architects had not had the courage that they ought to have had in imposing and pressing upon Parliament and politicians their views on architectural questions. In conclusion, he would ask them to buckle on their armour, and not to be frightened of Parliament, but to go before it in the interest of the beautification of London, the convenience of Government Departments, and the maintenance of the dignity of public buildings.

The PRESIDENT, in putting the vote, referred to the public architecture in England, and said that unfortunately neither the public nor the politician had that view of its importance that distinguished some of the small republics of the Middle Ages, not to speak of those of Antiquity. It would be remembered that the small manufacturing town of Florence, when it rebuilt its cathedral, desired it should be a finer building than any that had been put up by the Greeks or Romans, that no expense should be spared, and that the best and most costly materials should be used, and that the design and the work should be done by men of the greatest skill. If they could make their statesmen see the importance of architecture to the country, their aspirations would not sink below those of the trading burghers of Florence. He felt hopeful of this country, architecturally speaking, now that it had become democratic, for every man might now feel that he had a voice in the matter, and that he would be charmed and raised by the excellence of the public buildings—that these public buildings would not only strike him, his friends and fellow citizens, but that they would be the pride of every one in the country, and that every foreigner who came here would be delighted with the public buildings he saw. He thought they might also look forward to a freer hand being given to the architects than had hitherto been allowed them. He felt sure that the architects, who had in many respects so wonderfully improved in the last fifty years, would turn more of their attention to increase the excellence, splendour, and exquisiteness of their public monuments than to private buildings, which are admitted to be admirable. He was not now speaking to architects, because they knew it already, but to the visitors. Simplicity was the great basis of all that was imposing and sublime in the fine arts. Less work was done on Greek buildings than on modern ones, though the buildings of Athens were still the admiration of the world. The thing that the architect wanted to aim at was to make his building answer its purpose, tell its story, and be beautiful, and to effect this with the greatest possible simplicity, and to be a niggard of his ornament, so that only that which was absolutely necessary for the finish of the building should be put upon it; but that that be exquisite. Take the Parthenon, there were only about six curved mouldings in it, and one small line of carved ornament; but it had for its decoration the finest sculpture in the world. Just consider what might be done if architects of genius could give the necessary thought and labour to their work; but, to induce them to do this, there must be sufficient encouragement given to architectural genius. At present the architect was nobody; no one thought anything of him—he worked for almost nothing, and he had no other reward. People asked, "Who is Mr. So-and-So? He is the distinguished artist—he paints portraits, or pictures, or sketches for the newspapers." But does any one ever say, "Here is a great architect who has designed that magnificent monument"? Never; he is looked upon as nobody. In fact, newspapers treat architecture as if buildings grew naturally; they would as soon think of asking who was the author of a mushroom, as who was the author of the finest building put up in modern times. Could men of genius be expected to devote their lives to such difficult and laborious work, men who could command enormous sums by directing their genius in other directions, if they were to be laughed at or ignored? No. It was impossible. People would not do things for nothing, but they would live on the barest necessaries to command admiration and fame. Look at the poets. Milton got the price of waste-paper for his *Paradise Lost*; but he got all the immortality that could be attained in this world for his superb and sublime work, because it was appreciated, studied, and admired. Many of the philosophers of the day were men almost unknown in society, living in back streets, on meat from the cook-shop; but their names were known and their works admired throughout the civilised world. That was the payment, that was what mankind looked for; and excellence could not be got without it. With regard to Mr. Statham's Paper, it appeared to him that the official plan, that irregular trapezium with the triangular end and wretched arrangements of open courts, was too contemptible to be considered for a moment. He was rather surprised to hear any one find fault with the very fine arrangement which plan B showed. He was afraid when one got animated on these subjects one was apt to be prolix and diffuse, but there was one other point he wished to touch on. To make the Nelson Column the centre of anything was one of the greatest mistakes. What ought to be done with it was to put it into Leicester Square; for it would improve the appearance of the column and the square, and not dwarf the National Gallery into a doll's house, and that would be a great boon. The National Gallery was, from a variety of unfortunate circumstances, not made sufficiently high for the position it was now in, as old columns had to be used, not from any fault of Wilkins, but from misfortunes. The side of the square was pulled down, rendering the National Gallery visible from Whitehall, and it was built when the only modern building to be admired was St. Martin's Church. Another misfortune was that Wilkins was so badgered and worried by a variety of circumstances, and by this determination that the portico of St. Martin's Church should be seen, that he evidently threw up the whole thing in despair and said, "Well, gentlemen, though I could have done a better thing than this, still, as you will not have it, I will let it go." He (the President) was very sorry he did so, but from many points of view it was one of the finest modern buildings they had got in England.

Mr. H. HEATHCOTE STATHAM [*F.*], in reply, said that with regard to Mr. Brewer's remark about the Board Room of the Admiralty, he agreed; but one could not go into all details in a Paper that was already rather long, otherwise he should have said that what was valuable in the Board Room, the carving, could be preserved and placed elsewhere. The model he exhibited was perfectly right, with the exception that Mr. Taylor objected to the height of the main floor at the Foreign Office, and if he had the management of the new buildings he would make it rather lower. The official block plan was not a mere sketch; the position of corridors and rooms had obviously been carefully considered, and he had no doubt it showed what would be done if the Office of Works were to carry out the building. In regard to Dover House, if any one could go into that entrance hall—he said nothing about the exterior—and not see that it was a beautiful and charming architectural work, he was sorry for him. As to the Mall, to which Mr. Mountford referred, it was not a question of what they saw looking out of the Mall, but of what they saw on looking into it. He wanted to see the beautiful vista of trees brought into Charing Cross. He was glad that Mr. Mountford was complimentary to Scheme 8; but these must not be considered as any finished views of what he could or would do; they were sketched out, roughly, while he was writing the Paper, and the only reason he brought them was that he had always held that an architect when reading a Paper on architecture, and in criticising other schemes, should be prepared to show what he would himself do; otherwise it was a mere opinion in the air, with nothing to support it. As to setting back the proposed new building from the back of the Foreign Office, he thought if that were done they would find it also necessary to set back the east side of Parliament Street to make it symmetrical. But there was something in that suggestion. He quite agreed with Mr. Caröe about the circular corner shown in the Parliament Street building; but that was just what official architects did; they were never tired of circular corners. He assured Mr. Burns he did not consider him a "vandal"; on the contrary, he had observed many times with pleasure that he was on the side of æsthetics, and he thanked him for coming to the meeting. Mr. Burns said that the Sites Committee had not excluded outside architects. He (Mr. Statham) complained, however, that they had passed the vote for the site without having sat again and called any architectural evidence, as he expected they would, and, indeed, he was personally promised that he should be called, though he hoped more important persons would also be called. [Mr. JOHN BURNS, interposing, observed that the Committee died with the Session, and it was not their fault that they had to recommend that a certain sum of money should go through. But as the Committee had been reappointed, they would resume their deliberations, and Mr. Statham could rely upon it that he would not be excluded.] He was glad to find that Mr. Burns really took his view as to the Carrington House site. With regard to Mr. Burns's remark that they might do a great deal of good if they put their views more harmoniously, he (Mr. Statham) could only reply that his experience of the world respecting any matter regarding Art was that one was never listened to unless one spoke very decisively. If a thing were put in a moderate and good-natured manner, people did not mind it; but if it were put pretty strongly, it might be listened to. That was his excuse.

9, Conduit Street, London, W., 15*th April* 1897.

CHRONICLE.

Mr. Statham's Paper.

A very representative audience met last Monday to hear and discuss Mr. Statham's Paper on "The New Government Offices Scheme," among those present being Mr. John Burns, M.P., one of the members of the Select Committee on the Appropriation of Sites for Government Offices; Mr. Henry Tanner [*F.*] and Mr. Jasper Wager, of the Office of Works; Mr. H. W. Brewer, Mr. H. Muthesius, architect to the German Embassy in London, and numerous members and visitors. It is necessary to explain that, owing to a rearrangement of meetings, Mr. Statham had kindly acceded to the Council's request, and prepared his Paper for the 12th instead of the 26th inst., as originally proposed. The new arrangement left no time for the Paper to be printed and circulated prior to the meeting among those interested and likely to contribute to the discussion. The Paper was illustrated by several plans and diagrams, and by a sketch-model showing the consequent evil results as regards light and air if the Carrington House site were built over in the manner proposed by the Office of Works. It is satisfactory to learn, from the declaration of Mr. John Burns, that the treatment of the new War Office buildings need not be considered as finally settled; and it is to be hoped that, as an outcome of Mr. Statham's exposure of the inadequacy of the Department proposals, some competent architectural advice may be accepted to avert the commission of a National blunder.

The late Mr. C. C. Ogle [*A.*].

Mr. John Hebb [*F.*] writes:—It appears from a letter from the *Daily News* special correspondent in Greece dated the 16th March that the inhabitants of Volo, in Thessaly, have named a prominent street in that town after Mr. Ogle, a promising young architect who was brutally murdered by the irregular troops of Amouss Aga, a Turkish major and chief-of-police (Thessaly being then under Turkish rule), between Volo and Macrynitza, in Thessaly, in the spring of 1878, while acting as correspondent for *The Times.* From a letter from M. Delayanni to M. Gennadius, the Greek *chargé d'affaires* in this country, it would seem that Mr. Ogle, who was a pupil of Mr. F. W. Roper, and was only 27 years of age, had given offence to Amouss Aga by remonstrating with him with regard to a massacre at Boulgarini, a village near Volo, and this remonstrance cost Mr. Ogle his life. The Turkish authorities endeavoured to make it appear that Mr. Ogle had taken part with the insurgents; but this was completely disproved by evidence, and it was shown that he started from Volo with no other arms than a light switch. The Count de Chevigné in the *Contes Rémois* expresses his preference for the use of the names of heroic men to distinguish streets, giving as his reason:—

> "Leur souvenir me recree en marchant
> Mieux que Saint Louis, Saint Gille et les apôtres,"

and the people of Volo may be congratulated on having adopted this principle by naming one of their prominent streets after a fearless young English architect who died in the discharge of his duty.

St. Helen and St. Giles, Rainham.

Mr. Henry Lovegrove [*A.*] sends particulars of the Church of St. Helen and St. Giles at Rainham, in Essex, which is about to be restored. The condition of the building has been for some months very unsafe, the roof, constructed about 150 years since, having thrust out the aisle walls; and the arcade has been for many years in peril through the removal of several of the tie-beams of the nave roof. The church is said to have been erected by one of the Norman barons, Richard de Lucy, Lord of Dive, in Normandy, A.D. 1150 to 1160. A good portion of the Norman work remains, but many of the windows, both Norman and early English, were removed in the eighteenth century, and the openings fitted with very commonplace casements. The font, of very early date—probably earlier than the church—has been sadly mutilated by so-called restorers. Portions of ancient benches remain, and the rood stairs, bricked up for ages, have been found. Coloured decorations exist beneath many coats of whitewash. The fine windows in the east wall were at some remote period either blocked up or mutilated, and from the indications remaining would appear to have been the somewhat ordinary rose window, with five single-light windows beneath.

Messrs. Bell's Handbook to Canterbury [p. 281].

In reference to Mr. Crace's review of the *Handbook to Canterbury Cathedral* in the last issue of the Journal, a letter has been received from the publishers, Messrs. George Bell & Sons, enclosing two flyleaf prefaces acknowledging the obligations pointed out by Mr. Crace, and stating that these prefaces now appear with every copy of the book.

NOTES, QUERIES, AND REPLIES.

Professor J. L. Ussing on Vitruvius.

From the President, Prof. Aitchison, A.R.A.—

The learned Professor Ussing published last year the pamphlet on *Vitruvius* we now have in the Library, in which he endeavours to show that the author could not have lived before the latter part of the third century of our era, and that he was not an architect; consequently that the book must have been compiled from earlier authorities and christened with the name of *Vitruvius*, and dedicated to Augustus as a literary whim, to say the least. He justifies these views by his knowledge of the language, by certain historical facts, and by technical blunders and ignorance in the book itself.

The age of the book must be mainly settled by its style and the presence of words introduced after the Augustan age, which would be the work of accomplished Latinists to decide, who are also archæologists in the language, and the historical points can only be decided by historians; but the question of technical blunders and ignorance that would prove that Vitruvius was not an architect must, I think, be settled by the profession. Unfortunately I have not the time for the proper investigation just now, and can only suggest those explanations that occur to me in reading the abstract, not understanding Danish.

Professor Ussing admits that an architect named Vitruvius is mentioned by Pliny the elder, as one of the authors from whom he quotes, by Frontinus on aqueducts, and by Servius of the fourth century, but he says it is not certain that Vitruvius wrote the book which now bears his name. If the scholars, historians, and architects cannot refute Professor Ussing's arguments, it is evident that his conclusion must be accepted that "this Vitruvius must be erased from the authors of the golden age of the Latins."

I must, however, demur to Poggio's discovery of the codex of Vitruvius at St. Gall in 1414 being its first appearance; as Eginhardt, the secretary of Charlemagne, tells us that he was reading it, and asks a friend to explain some of the passages.

I will now say something of Vitruvius' supposed ignorance and blunders. Architects have certainly found that Vitruvius' proportions of the Orders do not agree with those found in the golden age of Greek architecture; but this, I think, was to be expected, for he was not an antiquary in our sense, but doubtless gave the proportions mostly used when he built or wrote. As to the rudeness of his language, Vitruvius certainly says his parents had him taught the art of architecture, and that he was delighted with literary and artistic subjects; but, as he must have had more conversation with foremen and workmen than with scholars and men of letters, it by no means follows that he wrote Latin elegantly, nor that he did not use technical words and expressions picked up in the workshop.

In comparing Pliny's remarks on the cedar and the juniper, both of which botanists class as junipers, with those of Vitruvius, we must not forget that the latter was an architect and not necessarily a botanist, nor one having any exact knowledge of where foreign timber was grown; about the filtering or decantering of water as a test of its goodness Pliny and Vitruvius might not have agreed.

As regards the fall given to water, Vitruvius gives six inches in a hundred feet (Schneider, lib. viii., cap. 6); but this applies to built channels, which were probably plastered. Rose has altered this to a quarter of an inch from Pliny's fall in earthen pipes (lib. viii., cap. 7). I should like to hear the opinion of any practical man who had the laying of pipes whether such a fall is practicable; the aqueduct into Liverpool has, I believe, a fall of one and three-quarter inches in a hundred feet.

It is also clear that Pliny does not quote from Vitruvius on blue (Plin. lib. xxxiii., cap. 57, and Vit. lib. vii., cap. 11), but then he does not give Vitruvius's name among the Roman authors he has quoted.

In Pliny (lib. xxxv., cap. 49) on crude bricks, Pliny gives Vitruvius' name in his index of authors. Vitruvius (lib. ii., cap. 3) on the same subject does not agree with Pliny in the time for making them. We want the opinion of those who make and use crude bricks as to the influence of the autumn, and to the unlikelihood of their being kept for five years at Utica. Vitruvius does speak of burnt bricks, which he calls "structuris testaceis" (lib. ii., cap. 8, p. 17); in p. 18, "structura testacea" and "lorica testacea"; p. 19, "testa"; p. 20, "testa"; lib. vii., cap. 1, p. 7, "tegulæ bipedales."

If Prof. Ussing's contention be correct that chaps. 19 and 21 of the tenth book of Vitruvius are translations from Atheneus by our Vitruvius, and that Atheneus lived in the third century A.D., it goes a long way to prove his hypothesis; at the same time I must call attention to this point, that if our Vitruvius was the one written by the Vitruvius of the days of Augustus, it was probably in the hands of governors of provinces, and it is quite possible that one of these governors may have had these chapters of Atheneus translated from the Greek and bound up with Vitruvius for his own use. Eusebius, the Bishop of Cæsarea, tells us that Constantine the Great was not familiar with Greek, though he spoke a few words of Greek to show his amiability to the assembly.

It has always appeared to me that Vitruvius had written his book on architecture before Augustus was crowned, if not much earlier, and that after he had been appointed inspector of artillery he thought it a good opportunity to dedicate it to his patron and to pay him some compliment on his buildings that were then being erected.

Vitruvius gives the height of the Doric column as 7 diameters (iv. 3, 4), but in iv. 1, 6 he tells us that the Ionian Greeks made it 6 diameters high, and Pliny gives the last proportions. In the Greek temples of the Doric order the triglyphs were necessarily at the angles, as they were originally the ends of the bressummers. The Romans, who were wedded to rules, saw in the triglyphs nothing but an ornament, and found, too, that they could not set out their columns equally if the triglyphs were at the angles, and so put them over the centre of the columns; so that the angle half-metope at the small temple at Pæstum points to Roman times. I do not recollect seeing a triglyphed frieze to the Ionic. It is probable that antiquaries know when temples to Isis and Serapis were first built in the ports. Those mentioned in *Vitruvius* are for cities about to be built, and the edict of Augustus against temples for Egyptian worship only applied to Rome and its neighbourhood. In telling us that temples should point to the west he naturally spoke of Roman temples, and antiquaries probably know to which point of the compass Roman temples mostly faced. Christian churches and basilicas, at any rate, were not built to face the west until the fifth century.

I have addressed a letter to the *Athenæum* appealing to Latinists to confirm or refute Professor Ussing's verdict on the date of the language of Vitruvius. Since writing it the Council has empowered me to get an English translation of the whole pamphlet, so that every architect may be able to consider the subject; I hope an evening in next session may be allotted to a discussion of this interesting subject. I append a letter of Professor Ussing's, which he has kindly allowed me to publish, in answer to one of mine, of which I have no copy. I must thank Professor Ussing for his great and learned labours, and, though "truth is great and will prevail," I hope he will pardon an architect's reluctance to see the statue of the father of architecture thrust from its pedestal, and turned, like the statue of the great Sejanus, into frying-pans and gridirons, without overwhelming proof.

Copenhagen: 18th January 1897.

Dear Sir,—I feel much flattered by the title you have given me in your kind letter of 9th of January, though I am no more an architect than Vitruvius; but I so far surpass him that I do not pretend to be one—I only wish to understand the art, and try to make my scholars appreciate it.

I hoped that my abstract in French would give, not only the general contents of my dissertation, but also all the essential documents, and that every reader who wished to know the original passages of the authors could find them in the Danish text. I am very sorry if I have not expressed my meaning, and I should be glad, if it were possible, to publish a translation in another language. Then perhaps you might better understand the tendency of my book. I do not underrate the merits of Vitruvius. We are indebted to him for the first and principal knowledge of classic architecture, and he is quite indispensable for the study of that art; but among the precious information he gives us, we find errors and blunders scarcely to be comprehended. In fact, he knew very little of architecture himself, but he has abstracted a valuable author, unfortunately not with sufficient accuracy and not without mistakes. Of course he never says one word about the late Roman method of building, because Varro could not say anything about it, even as he does not mention any of the splendid buildings of the Augustan age, because they did not exist when Varro wrote.

A fatal mistake of Vitruvius has recently been pointed out by Mr. Dörpfeld in his precious work, *Das griechische Theater*. In lib. v., cap. 7, p. 2, Vitruvius says that the Latin *pulpitum* by the Greeks was called λογεῖον. Then he continues: "Eius logei altitudo non minus debet esse pedum X, non plus duodecim." To an architect like you it is not necessary to demonstrate the absurdity of this statement. Mr. Dörpfeld has made it sufficiently clear, but he has not seen the cause of the mistake. Varro had written "altitudo proscenii" in the original signification of this word as the architectural decoration in front of the so-called scene. So it is right, and in accordance with the monuments; but Vitruvius has taken "proscenium" in the sense it commonly had by the Romans as the stage, and has substituted the Greek word, he just had explained.

As Mr. Murray has acquainted you with my book, will you please remember me kindly to him, and show him this little notice?—With the greatest respect, yours faithfully,

J. L. Ussing.

Heraldry in Decoration.

From J. D. Crace [*H.A.*]—

Whilst admitting that the decorative use of heraldry may be overdone, or may be inappropriate, I cannot help regretting that there is often a reluctance to use it. In many circumstances it affords such a capital motive, and such a ready means of infusing interest into the ornamentation, that it is provoking to find it barred. It has been said that shyness has often its roots in a deep-seated vanity, or self-consciousness, which above all things dreads to seem foolish. I cannot help thinking that half the modesty about the use of heraldry has its root in a similar vanity. I have known many and many a client disallow the use of heraldry in the decoration of his house; but not one offered the explanation that he was not entitled to use it; rather the contrary—being entitled, he would not be as other men are.

I confess that I can see nothing ridiculous or "snobbish" in the reasonable use of what becomes the family symbol or badge after a generation or two. After all, it is like setting one's mark on an object; and is a pretty, impersonal way of writing one's name, and of leaving a sort of note or memorandum for another generation. Such notes are invaluable for local and family history, which is by far the most interesting sort of history; and how easily the traces are lost cannot any one of us testify?

Apart from the actual interest which it may afford, and the purpose which it may give to ornamentation, its value as colour must render it most useful to the decorator. Nothing serves better for giving point and emphasis in a scheme of colour, nor affords a better excuse for a little strong contrast when such is required. Thus, how usefully it accentuates the corbel which carries a heavy beam; or knits together the structure where the ribs intersect. Again, how often the family badge can be used with good result in the "quarry" of a window, or the "powdering" of a wall. The ornamental use of some feature or device in the charge is a quite legitimate freedom in the use of heraldry; but I am disposed to think that Mr. St. John Hope's advocacy of freedom in the matter was perhaps hardly so necessary as he seemed to think. It appears to me that there is quite enough disregard of rule; but it too often arises from ignorance of the rule's existence. Before an artist makes use of heraldry he should try to understand the original meaning and object of its principal features; he will then soon perceive where freedom may or may not be indulged. It is a pity to cast aside a time-honoured rule because an exception occurs here and there. In this respect I think that what Mr. Hope said about the "mantling" is very misleading. I am writing with 170 full-size coloured drawings of the Windsor stall plates before me; and taking the early examples only, from Edward III. to Richard III. (when heraldry was still in use on the battle-field), the mantling takes up the colours of the charge with very rare exceptions, unless indeed it is treated as a part of the crest, which actually it often was. Of thirteen plates of Edward III.'s Knights of the Garter two show the plumage of the crest continued in the mantling; in ten the mantling follows the charge; and in one only does it disregard the charge.

Among the plates of the reigns of Henry IV. and Henry V. two have mantlings particoloured, right and left of the helm (one of them being a foreign coat); the rest, so far as I have them, follow the usual rule.

In fact, in speaking of heraldry nowadays, it seems to me much more useful to warn the inexperienced against blunders which are absurd, such as making the supporters lie down like pet dogs, than it is to advocate a freedom which any artist who has mastered the subject will readily enough adopt for himself. J. D. Crace.

MINUTES. XII.

At the Twelfth General Meeting (Ordinary) of the Session, held on Monday, 12th April 1897, at 8 p.m., Professor Aitchison, A.R.A., *President*, in the Chair, the Minutes of the Meeting held 29th March 1897 [p. 288] were taken as read and signed as correct.

A Paper by Mr. H. Heathcote Statham [*F.*], entitled The New Government Offices Scheme, was read by the Author, and the same having been discussed, a Vote of Thanks was passed to him by acclamation.

The proceedings then terminated, and the Meeting separated at 10.15 p.m.

LEGAL.

THE LONDON BUILDING ACT.

Laying out new street.

THE LONDON COUNTY COUNCIL *v.* FAULKES.

Mr. D'Eyncourt gave his decision on March 23 at the North London Police Court in this case (argued before him on March 9 by Mr. Chilvers for the County Council, and Mr. Macmorran, Q.C., and Mr. Salter for the defence). The defendant was the freeholder of the Willows Estate, Park Lane, Stoke Newington, and was summoned at the instance of the County Council for forming and laying out a road on the north side of Carysfort Road, which did not communicate at each end with two public carriage-ways, without the consent of the Council. It was admitted that prior to the London Building Act 1894, sec. 9, the defendant could have laid out the new street in the way he proposed; but this Act made it necessary that a new street should communicate with public carriage-ways at each end, and that the consent of the Council must also be obtained. The defence raised was that the new street had been commenced prior to the Act of 1894 coming into operation. The evidence showed that openings were left in the line of houses in Carysfort Road when they were put up in 1894, and that the flank walls of the houses abutting on these openings were finished off as corner houses, and that the garden fences were made as outside fences would be. It was also alleged for the defence that the spaces through the openings had been partly made up as "builders' roads" in 1894. On the other hand it was said that the openings had simply been left and boarded up, and that, so far from the proposed roadways being made up, the opening had simply been used for the storage of hard core, &c., for use in the making up of Carysfort Road. No attempt to lay out the new street was made until November 1896.

Mr. D'Eyncourt said that the question for him to decide was whether the present work had been commenced before the Act of 1894 came into operation. There was no doubt that the plans were sent in before that time, and those plans contained a spur street which the defendant did not press, and to which the Council had a right to object. The Council, however, offered the defendant no assistance in the matter, as they only sent an indefinite objection, which the defendant might naturally take to apply only to the spur street. Without the spur street the circumstances were identical with those existing in the case of *The London County Council* v. *Edmondson*, 66 L.T. Rep. 230, and he adopted all that the Judges had said in that case. As in that case, the new street was to be made in crescent form, both ends coming into one carriage-way. Was this new street commenced before the end of 1894? He should hold that it was, for the reasons, as stated in the evidence, that the four corner houses were finished as corner houses, and the garden fences were a foot higher than those between the ordinary gardens. It was clearly the intention of the defendant to lay out the new street when he was building Carysfort Road early in 1894. Under these circumstances he should dismiss the summons. He granted twelve guineas costs.

Mr. Chilvers asked the magistrate to state a case for the High Court, and he said he would consider the application.

REPORT OF THE COUNCIL FOR THE OFFICIAL YEAR 1896–97.

Approved and adopted by the Annual General Meeting, 3rd May 1897.

The President, Professor Aitchison, A.R.A., in the Chair.

The Council elected on the 8th June 1896 have held 22 meetings. The Committees of Council for the consideration of matters connected with Professional Practice, Finance, and Library Administration, and for the award of the Royal Gold Medal, have held 12 meetings.

During the official year 18 Fellows (of whom 11 were previously Associates), 40 Associates (of whom 18 were *Students*), and 8 Hon. Associates have been elected. The number of Fellows is now 602, as against 594, and the number of Associates 986, as against 968 at the corresponding period last year. The number of Hon. Associates remains the same, namely 55.

Two Fellows have been transferred to the class of Retired Fellows, in accordance with the terms of By-law 13—namely, Messrs. C. H. Howell and S. S. Markham.

The losses by death have been as follows :—*Fellows* : David Brandon, *Vice-President* 1866–67, Wm. H. Clark and Henry Crisp (Bristol), F. J. Francis, J. G. Finch Noyes, Stephen Salter, J. W. Trounson (Penzance), Robt. Walker, and Wm. H. White, *Secretary*. *Associates* : E. Howard Dawson (Lancaster), John Gethin (Cardiff), Frederick Morley (Dublin), Wm. A. Purdue, and C. W. Whittenbury (Manchester). *Hon. Associates* : Edward Armitage, R.A., Sir John Everett Millais, Bart., P.R.A., Lord Savile, G.C.B., and William Tipping, F.S.A. *Hon. Fellow* : Edward Falkener ; and *Hon. Corr. Member* : Don Mariano Belmas (Madrid).

In Sir John Millais, who was elected an Hon. Associate in 1879, the Council mourn the loss of a most distinguished member. An obituary notice of the late gifted President of the Royal Academy, by Mr. A. E. Street [*F.*], appeared in the Journal, Vol. III., page 541. An obituary notice of the late Edward Falkener, written by Mr. Penrose, will be found at p. 149 of the current volume, and a memoir of the late Secretary, from the pen of Mr. Alex. Graham, at page 11.

The Council deeply deplore the loss of their Secretary, Mr. William H. White, who was appointed in the year 1878, and held the office until the time of his death, for a period of eighteen years. During that period the membership of the Institute largely increased, the present system of examinations came into operation, and the responsibilities of the chief administrative officer were in other ways augmented. Mr. White devoted himself to his duties with the utmost zeal, bringing into play all the forces of a naturally energetic temperament in promoting the knowledge of architecture and the welfare of the Institute, whose interests he had so much at heart, and especially in maintaining its cordial relations with kindred Societies abroad. Mr. White's illness prevented his attending personally, except intermittently, at the Institute after the beginning of last year, although he maintained his interest in its affairs until the last. His place will be very difficult to fill. The vacancy has been advertised, and out of fifty-seven candidates the Council have selected Mr. William J. Locke, B.A.Cantab., who will enter on his duties after Easter; and they have also appointed Mr. Herbert G. Tayler as Assistant-Secretary. During the vacancy in the Secretaryship an unusual amount of work has been thrown upon the Hon. Secretary, and the Council desire to record their indebtedness to him for so kindly carrying it out, and also for the willing assistance rendered by the whole of the staff. The Council also desire to express their acknowledgments to Mr. Alex. Graham, F.S.A., *Vice-President,* for his services as Hon. Editor since Mr. White's decease.

The Institute has lost a warm friend and generous benefactor in the late David Brandon. It will be remembered that the preparation and printing of the Library Catalogue issued to members in 1889 was due to his generosity, and he has supplemented this by a munificent bequest of £1,000. A legacy of £100 has also been received from the executors of the late David Mocatta. Both amounts have been invested, and the income will be of great service in the work of the Institute.

The Preliminary Examinations of June and November 1896 were held in London, Manchester, and Bristol, with the result that 165 gentlemen have been registered as Probationers. At the same time Intermediate Examinations were held in London and Manchester, with the result that 68 Probationers have been registered as Students. There are now 872 Probationers and 798 Students on the respective Registers. The Final and Special Examination qualifying for candidature as Associate was held in London and Manchester in June, and in London only in November last, when of the 76 candidates examined, 35 passed. Statistics of these Examinations are given in the following table:—

THE PRELIMINARY EXAMINATION.

	Applied	Attended	Not Passed	Relegated	Passed
Summer	138	Exempted, 25 Examined, 103	—	31	72
Autumn	97	Exempted, 27 Examined, 65	6	18	41
Totals	235	220	6	49	113

THE INTERMEDIATE EXAMINATION.

	Applied	Attended	Not Passed	Relegated	Passed
Summer	72	66	—	32	34
Autumn	64	58	—	24	34
Totals	136	124	—	56	68

FINAL AND SPECIAL EXAMINATIONS QUALIFYING FOR CANDIDATURE AS ASSOCIATE.

	Applied	Attended	Not Passed	Relegated	Passed
Summer	51	48	—	27	21
Autumn	29	28	—	14	14
Totals	80	76	—	41	35

The Ashpitel Prize was awarded to Mr. T. Denton Brooks [*A.*], he having most highly distinguished himself among the thirty-five gentlemen who qualified during the year for candidature as Associate.

The prize offered by Mr. Arthur Cates for the best set of Testimonies of Study submitted by *Students* for admission to the Final Examination was awarded to Mr. C. S. F. Palmer [*A.*], who qualified for candidature as Associate in November 1896.

The Council desire to record their indebtedness to the Allied Societies at Manchester and

Bristol, under whose charge Examinations have been conducted during the official year; as well as their obligation for the gratuitous services rendered by the London Board of Examiners.

A Statutory Examination was held in October last, when Certificates of Competency to act as District Surveyor in London were granted to Mr. O. C. Hills [*A.*] and Mr. George Tolley; and a Certificate of Competency to act as Building Surveyor under Local Authorities to Mr. J. H. Dunn.

The Royal Gold Medal for the promotion of architecture was presented to Mr. Ernest George, *Vice-President*, in June last. For the current year Mynheer P. J. H. Cuypers [*Hon. Corr. M.*], of Amsterdam, has been selected for the honour, for his executed works as an architect, and Her Majesty the Queen has graciously signified approval.

The Deed of Award of the various Prizes and Studentships was presented to the Institute at a General Meeting on the 11th January [see pp. 142–143]. At the presentation of Prizes on the 18th of that month a critical review of the drawings submitted was read by Mr. W. Milner Fawcett, M.A., *Vice-President*. The drawings were publicly exhibited in the rooms of the Institute from the 8th to the 18th January, both days inclusive. Included in the exhibition were the drawings made by the Owen Jones Student (Mr. H. C. Corlette [*A.*]) and the Tite Prizeman (Mr. H. A. Crouch [*A.*]) of 1896, which had received the approval of the Council. Selections from the premiated drawings and specimens of Testimonies of Study submitted by candidates for admission to the Intermediate and Final Examinations are being exhibited under the charge of the Allied Societies at Birmingham, Leicester, Nottingham, Sheffield, Leeds, York, Newcastle, Dundee, Glasgow, Liverpool, Dublin, Bristol, and Exeter, in the order named. Among these are drawings of Melrose Abbey by Mr. F. J. Wass, *Institute Medallist*; perspective and details of a Provincial Hall by Mr. J. A. R. Inglis [*A.*], *Soane Medallist*; measured drawings and sketches by Mr. William Haywood, *Pugin Student*; coloured studies by Mr. A. E. Henderson, *Owen Jones Student*; coloured studies by Mr. A. T. Griffith, B.A.Oxon., to whom the second of the Aldwinckle Studentships was awarded; and a design for a Bay of a Church by Mr. S. K. Greenslade [*A.*], *Grissell Medallist*. These were accompanied by selections from the drawings of Mr. J. A. Swan, Mr. C. H. Holden, Mr. C. de Gruchy, and Mr. W. E. Dobson, to whom subsidiary prizes were awarded; and by specimens of work submitted by Mr. H. L. Anderson for admission to the Intermediate Examination, and by Messrs. A. G. Bond [*A.*], G. W. Frazer [*A.*], and C. S. F. Palmer [*A.*] for the Final Examination.

In accordance with the decision of the Council, a Conference followed by the Annual Dinner was held in Manchester, in response to a request from the Manchester Society, on the 20th May last. Mr. Penrose, the then President, presided, and was supported by some of the principal public officials of Manchester, as well as by members of the Council and of the Institute generally. The Council were assisted in the arrangements by the Manchester Society, and the visit was a great success.

Early in the official year the President received a communication from the Right Hon. Joseph Chamberlain, Secretary of State for the Colonial Department, asking him to submit the names of three or four architects to furnish designs for new public buildings to be erected at Kingston, Jamaica. A notice was inserted in the JOURNAL calling attention to the matter, and inviting applications from members of the Institute and others. A selection was made from those sent in, and forwarded to the Colonial Office, and an intimation was in due course received that Mr. W. H. Harrison [*F.*] had been selected to carry out the work.

The Special Committee appointed in December 1895 to consider the question of the nomination and election of Fellows have, after numerous meetings and consultation with the Allied Societies, reported to the Council, who have adopted the suggestions made, and these will be submitted to the General Body at a Special General Meeting on the 31st May.

A communication was received in June last from the Board of Regents, the Governing Body of the University of California, stating that it had been decided to prepare a programme for "a general competition for a permanent, comprehensive, and grand plan of the grounds and buildings of the University of California at Berkeley," and asking for suggestions with respect to the preparation of such programme. The matter was referred to the Competitions Committee, who have drawn up some suggestions which it is hoped will contribute to the successful issue of the Competition.

The present Jubilee year is also the Jubilee of the Architectural Association, and the Council are glad to have the opportunity of expressing their appreciation of the efforts of that Body in the cause of architectural education.

REPORT OF THE ART STANDING COMMITTEE.

Seven meetings have been held since the publication of the last report. Mr. Alfred Waterhouse, R.A., and Sir A. W. Blomfield, A.R.A., were respectively reappointed Chairman and Vice-Chairman, and Messrs. E. W. Mountford and Owen Fleming, Hon. Secretaries.

Trinity Almshouses.—Your Committee are glad to report that the threatened demolition of these interesting buildings by the Trinity House Corporation has been averted, the Charity Commissioners having refused their sanction to the scheme. The Committee, having strongly opposed the demolition, consider the result most satisfactory.

St. Mary Woolnoth.—This building has also escaped its threatened destruction. Although the House of Commons inserted in the City and South London Railway Bill certain clauses for the purpose of protecting the church, these clauses were struck out by the House of Lords. The House of Commons, however, reinserted them, and they were finally agreed to. In this matter also the action of your Committee greatly assisted to avert the destruction of the church.

New County Hall for London.—Your Committee, having taken much interest in the proposed site for the intended new County Hall, were invited to an informal conference with some of the principal members of the County Council, and certain of the head officials. The Chairman, Mr. W. Young, and the Honorary Secretary were delegated for this purpose, and the meeting was held on the 4th December 1896. The views of the Committee were laid before the Conference, and the Committee were thanked for the trouble they had taken in the matter.

Preservation of Old Buildings.—At the invitation of the London County Council your Committee consented to prepare a list of buildings in London which may be said to possess historic and architectural interest. With this view they obtained your consent to invite the co-operation of other Societies interested in the matter. Afterwards, however, the London County Council themselves called a meeting for the consideration of the subject, to which your Committee were invited to send three representatives. The conference was held on the 4th December 1896, the Chair being taken by Dr. Collins, the present Chairman of the Council. After considerable discussion it was decided that it is desirable to prepare a register of the old buildings, and that a general committee should be formed of the various Societies represented at the conference, the matter being left in the hands of the London County Council.

Vauxhall Bridge.—In reply to a letter from the Honorary Secretary of your Committee, the Chairman of the Bridges Committee has promised that a model of the proposed new Bridge shall be made and submitted for the inspection of your Committee.

Carfax Tower, Oxford.—The Committee have had some correspondence with the municipality of Oxford respecting this Tower, and after carefully inspecting photographs of the church, together with measured drawings prepared by Mr. Hare, and hearing the opinions of those members of the Committee who had inspected the building, decided to report that there is nothing in the Tower of architectural interest, and that some scheme for remodelling it is desirable.

St. Martin's-in-the-Fields.—A letter from the Rector of the parish respecting the proposed removal of the western steps having been referred by you to the Art Committee, the matter was carefully considered and reported upon; the report having received your approval was forwarded to Dr. Kitto, and gratefully acknowledged by him.

The Committee arranged for the reading of the following Sessional Paper:—"The Sculptor's Architecture of the Renaissance," by Mr. Alfred Gilbert, R.A., on 1st February 1897.

REPORT OF THE LITERATURE STANDING COMMITTEE.

The Literature Standing Committee report that since their election on the 8th June 1896, they have held eight meetings. They appointed as Chairman Mr. Alex. Graham, F.S.A., *Vice-President*; Messrs. A. S. Flower, M.A., F.S.A., and R. Elsey Smith as Hon. Secretaries.

The Committee have to record with deep regret the very great loss they have sustained by the death of the late Secretary of the Institute, Mr. William H. White. The value of his work in connection with the Committee, both literary and administrative, cannot be adequately appreciated; no one had so large a share in the expansion and improvement of the Library and publications of the Institute.

The following Sessional Papers arranged for by the Committee have been read:—"The Great Mosque of the Omeiyades, Damascus," by Mr. R. Phenè Spiers, F.S.A., on 16th November 1896; "The Garden in relation to Architecture," by Mr. Henry E. Milner, F.L.S., Assoc.M.Inst.C.E., on 15th February 1897; "Heraldry in English Mediæval Architecture," by Mr. W. H. St. John Hope, M.A., on 15th March; "Heraldry of the Renaissance in England," by Mr. J. Alfred Gotch, F.S.A., on 29th March; "The New Government Offices Scheme," by Mr. H. Heathcote Statham, on 12th April. The following Paper has been arranged for the Meeting of the 17th May:—"The Parthenon and the Earthquake of 1894," by Mr. F. C. Penrose, F.R.S., *ex-President*.

The Committee desire to acknowledge their indebtedness to the authors of the several articles and reviews contributed to the JOURNAL during the past year—namely, Professor Baldwin Brown, Colonel Prendergast, Messrs. A. Barthélemy, J. R. Bramble, Frank Caws, J. D. Crace, A. S. Flower, John Holden, John Honeyman, E. W. Hudson, Edouard Naville, Ralph Nevill, Rowland Plumbe, E. C. Sayer, W. Scott (Bordighèra), W. Simpson, R. Phenè Spiers, A. E. Street, Paul Waterhouse, William White, &c.

The Committee desire to express their satisfaction with the efficient and zealous assistance they have received in the conduct of the JOURNAL from the Sub-Editor, Mr. George Northover, during the late Secretary's illness and since his decease.

The Committee have arranged for the printing of the Catalogue of the Loan Library as a separate publication. They have had under consideration the expediency of printing a Supplement to the Catalogue of the Reference Library, to be bound up with the Brandon Catalogue. The question of reprinting the series of Papers on Brickwork Tests and on Heraldry is under consideration.

The Committee have been able out of "The White Bequest" to add several valuable works to the Reference Library, and to make an important extension of the Loan Library, to the development of which much attention has been paid.

A useful addition to the still inadequate shelf-accommodation of the Library has been made by the purchase of the late Mr. White's bookcases, which have been placed in the Sub-Editor's room.

The Collection of Sketches by W. Eden Nesfield, purchased out of a fund raised by Mr. R. Phenè Spiers, have been arranged and bound under Mr. Spiers's personal supervision.

An Exhibition of selected Drawings and Prints belonging to the Library was arranged by a sub-committee of the Literature Committee, and a description given by Mr. Flower, on the occasion of the presentation of the Royal Gold Medal, 22nd June 1896.

Mr. Alex. Beazeley, the Librarian, having resigned at the end of last year, the Librarian's Report has been made by Mr. Rudolf Dircks, Acting-Librarian, and is as follows:

During the twelve months ending on the 31st March of the present year, 154 volumes and 54 pamphlets were added to the Library, exclusive of periodicals, reports, and transactions of Societies, and parts of works issued in serial form now in progress; and exclusive of the collection of books presented by Colonel G. A. White in fulfilment of the wishes of Mr. William H. White, the late Secretary of the Royal Institute.

The number of volumes presented to the Reference Library was 112, and to the Loan Library 12.

The works purchased comprise 24 volumes for the Reference Library, and 6 volumes for the Loan Library.

Of drawings, prints, and photographs 74 sheets and 6 volumes were presented, exclusive of the White donation.

Shelving accommodation is being found for the White donation, and a list of the books, prints, and drawings comprising the collection shall in due course be presented to the Committee and entered in the Library Catalogues.

The attendances of readers and borrowers during the year numbered 3,042 (last year 3,230), the number of works issued on loan being 920 (last year 831). A monthly analysis is herewith appended:—

Date (inclusive).	Day Attendances. 10 a.m. to 5 p.m.					Evening Attendances. 5 p.m. to 9 p.m.					
	Members.		Non-members.			Members.		Non-members.			
	Library.	Periodicals only.	Library.	Periodicals only.	Total.	Library.	Periodicals only.	Library.	Periodicals only.	Total.	Books issued on Loan.
1896.											
April	46	11	73	11	141	15	3	19	7	44	79
May	50	9	59	7	125	8	5	17	2	32	80
June	46	12	75	8	141	18	4	39	4	65	60
July	40	18	29	6	93	16	5	10	6	37	57
August . . .	Vacation.					Vacation.					17
September . . .	48	18	26	7	99	3	2	11	3	19	66
October . . .	46	25	55	13	139	19	2	30	7	58	87
November . . .	38	23	43	13	117	17	11	29	13	60	82
December . . .	52	15	36	17	120	18	3	29	5	55	88
1897.											
January . . .	52	10	83	7	152	37	2	43	8	90	112
February . . .	59	8	63	8	138	31	4	68	10	113	92
March . . .	52	12	87	9	158	38	13	64	5	120	100
TOTAL .	529	161	629	104	1423	210	54	359	70	693	920

The number of tickets issued to other than to members of the Institute, or to Students and Probationers, for admission to the use of both departments of the Library was 48.

The Library has been enriched during the year by many valuable donations, amongst which may be mentioned Birch's *London Churches*, presented by Mr. B. T. Batsford, the publisher: Furtwängler's *Masterpieces of Greek Sculpture*, presented by Mr. Wm. Heinemann, the publisher; Sachs and Woodrow's *Modern Opera Houses and Theatres*, presented by Mr. H. L. Florence; Montano's *Li Cinque libri di architettura*, presented by Mr. Arthur Cates; The Comte de Franqueville's *Le premier siècle de l'Institut de France*, presented by Mons. J. Rothschild, the publisher; Dörpfeld and Reisch's *Das griechische Theater*, presented by Dr. Dörpfeld [*Hon.Corr.M.*]; the Hon. Alicia Amherst's *History of Gardening in England*, presented by the author; Anderson's *Architecture of the Italian Renaissance*, presented by the author, and *Nouveau Théâtre d'Italie*, presented by Mr. W. W. Wardell.

Dr. P. J. H. Cuypers, Professor J. C. Raschdorff, and Mons. H. Daumet, Honorary Corresponding Members, have each presented illustrations of their works.

REPORT OF THE PRACTICE STANDING COMMITTEE.

The Practice Standing Committee have held eight meetings since the date of the last report. The Committee elected in June last appointed Mr. Edwin T. Hall, Chairman; Mr. J. Douglass Mathews, Vice-Chairman; Messrs. H. C. Boyes and F. H. A. Hardcastle, Hon. Secretaries. After the commencement of the Session Mr. Boyes resigned the post of Hon. Secretary, and Mr. Edmund Woodthorpe was appointed.

The question of the payment of architects' fees by fire offices in connection with the reinstatement of buildings after fires has been further considered by the Committee. After correspondence and negotiations with the principal insurance companies through their Association, a report thereon was submitted to the Council, and was published in the JOURNAL of 4th February last.

Letters were referred to the Committee by the Council respecting architects participating in the commission of quantity surveyors, also respecting charges and duties of architects and other matters, and reports have been made thereon to the Council.

The proposed new Bye-laws of the London County Council regarding drains were considered, and a report thereon, suggesting amendments, was made to the Council.

The amended Paper on the subject of the Professional Charges of Architects prepared by a sub-committee has received much attention, and is still under consideration.

REPORT OF THE SCIENCE STANDING COMMITTEE.

Since the date of the last Report the Science Committee have held ten meetings. The Committee elected last June appointed Mr. P. Gordon Smith, Chairman; Prof. Unwin, F.R.S., Vice-Chairman; and Messrs. William C. Street and H. D. Searles-Wood, Hon. Secretaries.

The experiments in brickwork testing, to which reference was made in the previous Report, have been continued, and the further results communicated to the Institute at the Ordinary Meeting held on the 14th December 1896.

A further series of experiments is in hand at the present time. These have reference more particularly to brickwork in walls as distinguished from those previously held in regard to brickwork in piers, and the Committee have again to acknowledge their obligations to Sir William Arrol and to the London and India Docks Joint-Committee for the valuable assistance rendered by them in regard to these experiments. The Committee hope in due course to issue in pamphlet form the results of the whole series of experiments.

The Committee assisted in judging in the Craftsmanship competitions recently held at the Building Trades Exhibition, and are glad to be able to express their satisfaction at the success that has attended the competitions. They desire to record their opinion as to the value of these competitions. There was a marked increase in the number of competitors in each trade, and the quality of the work done was distinctly in advance of previous competitions.

Referring to the inquiry as to the acoustical properties of different buildings mentioned in the Committee's last Report, a number of questions relating to the subject were issued to members of the Institute with the JOURNAL No. 6, Vol. III.; but the replies received have not at present been sufficient to enable the Committee to deal with the subject.

The draft Bye-laws of the London County Council with respect to drains, pipes, &c., under section 202 of the Metropolis Local Management Act 1855, having been referred to the Committee by the Council, received careful consideration, and a Report on the subject suggesting some important amendments was furnished to the Council. This has been adopted by the Council and forwarded to the London County Council.

FINANCES.

The accounts of Ordinary Funds for 1896, prepared by Messrs. Saffery, Sons, & Co., chartered accountants, and audited by Mr. Edmund Woodthorpe [*F.*] and Mr. Owen Fleming [*A.*], the Hon. Auditors appointed at the Annual General Meeting of 1896, are given on the following page.

Income and Expenditure Account of Ordinary Funds for the Year ended 31st December 1896.

Dr. Exclusive of Entrance Fees and Final Examination Fees; and Subscriptions received in advance for 1897. **Cr.**

EXPENDITURE.

	£	s.	d.	£	s.	d.
To Ordinary Expenditure—						
Rent	760	0	0			
Gas and Electric Lighting	63	9	4			
Coals	16	16	0			
				840	5	4
Salaries and Extra Assistance				1338	18	7
General Printing, Stationery, Stamps, Petty Expenses				406	10	2
Expenses of General Meetings, Exhibitions, &c.				172	11	5
Housekeeping (including Office Attendant)				106	17	2
Advertisements in Newspapers				25	19	0
Examination Expenses				259	18	2
General Repairs				32	14	8
Fire Insurance				20	4	6
Medals and other Prizes				111	4	0
Grant to Library				100	0	0
Grant to Architectural Association				100	0	0
The Journal—						
Reporting	68	0	8			
Printing and Binding	769	13	6			
Illustrations	136	10	5			
Addressing, Postage, and Carriage	227	14	2			
				1201	18	9
The Kalendar—						
Printing	142	7	8			
Postage and Carriage	5	7	11			
				147	15	7
Contributions to Allied Societies				212	10	0
Miscellaneous Expenses—						
Accountants	20	17	7			
Solicitors	128	16	6			
Gratuity to Librarian on retirement	62	10	0			
Manchester Dinner	29	11	10			
Reporting at Fellows' Special Committee	18	0	0			
Funeral of late Secretary	4	14	6			
Sundries	7	12	11			
				272	3	4
				5349	10	8
Balance of income over expenditure				591	2	2
				£5940	12	10

INCOME.

	£	s.	d.	£	s.	d.
By Ordinary Income—						
Subscriptions—						
556 Fellows (*less* 1s.)	2335	3	0			
Ditto, Arrears	50	8	0			
904 Associates	1898	8	0			
Ditto, Arrears	59	17	0			
Arrears of Associate reinstated	14	14	0			
59 Hon. Associates	123	18	0			
Ditto, Arrears	14	14	0			
				4497	2	0
Dividends on Stocks and Shares				87	3	8
Interest on Deposit Account				8	2	8
Sale of Publications (other than the Journal and Kalendar)				123	7	3
Use of Rooms—						
District Surveyors' Association	25	0	0			
Architectural Association	6	10	0			
				31	10	0
Examination Fees—						
Statutory	15	15	0			
Preliminary	379	1	0			
Intermediate	180	12	0			
Final (extra)	37	16	0			
				613	4	0
Journal—						
Advertisements	500	0	0			
Sales	29	8	3			
				529	8	3
Kalendar—						
Advertisements	30	0	0			
Sales	20	15	0			
				50	15	0
				£5940	12	10

Dr. *Balance Sheet of Ordinary Funds, 31st December 1896.* **Cr.**

LIABILITIES.

	£	s.	d.	£	s.	d.
To Sundry Creditors outstanding				198	2	6
To Examinations: Fees anticipatory of election				94	19	0
To Subscriptions for 1897 received in advance				90	6	0
To Balance being surplus of Liquid Assets over Current Liabilities				4298	13	10
				£4681	12	4
To Accumulated Fund being balance o Net Total Assets over Liabilities				13585	6	2
				£13585	6	2

ASSETS.

	£	s.	d.	£	s.	d.
By Cash at Bank				507	15	8
By Investments:—						
Architectural Union Co., 202 Shares	2828	0	0			
£1000 2¾ per Cent. Consols	925	9	6			
				3753	9	6
By Debtors				113	15	2
By Subscriptions in Arrear—						
1894–5 [6 Fellows, 7 Associates, 2 Hon. Associates]	56	14	0			
1896 [25 Fellows, 65 Associates, 4 Hon. Associates]	249	18	0			
				306	12	0
				£4681	12	4
By Balance of Liquid Assets over Current Liabilities				4298	13	10
By Property, viz.:—						
Furniture, Fittings, and Fixtures, as per last Balance Sheet	2556	5	7			
Additions during year 1896	4	7	0			
	2560	12	7			
Less Depreciation	64	0	3			
				2496	12	4
Printed Books and Manuscripts	3700	0	0			
Oil Paintings	1800	0	0			
Lithographs, Prints, &c.	400	0	0			
Water-colour, Sepia, &c.	600	0	0			
Models. Plaster Busts, &c.	140	0	0			
Marble Busts	150	0	0			
				6790	0	0
				£13585	6	2

Saffery, Sons, & Co.,
Chartered Accountants.

Examined with the several vouchers and found to be correct. 12*th April* 1897.

(Signed) { Edmund Woodthorpe.
Owen Fleming.

The Revenue Account and Balance Sheet of Trust Funds for the year 1896, audited by Mr. Edmund Woodthorpe [*F.*] and Mr. Owen Fleming [*A.*], here follow:—

Revenue Account of Trust Funds for the Year ended 31*st December* 1896.

Dr.	£	s.	d.	Cr.	£	s.	d.
ALDWINCKLE STUDENTSHIPS:—							
To Balance carried forward	150	0	0	By Balance from last Account	150	0	0
	150	0	0		150	0	0
ASHPITEL PRIZE FUND:—							
To Cost of Books [G. T. Reavell and W. C. Waymouth]	10	10	0	By Balance from last Account	15	7	0
To Balance carried forward	10	17	0	By Dividend on 20 Shares, Architectural Union Co., at 5*s.* per share	6	0	0
	21	7	0		21	7	0
CHARITABLE FUND:—							
To Cash paid Architects' Benevolent Society	5	5	0	By Balance from last Account	0	15	0
To Balance carried forward	0	16	8	By Dividends on £200. 10*s.* 2¾ per Cent. Consols	5	6	8
	6	1	8		6	1	8
DONALDSON TESTIMONIAL FUND:—							
To Cost of Medals	2	15	0	By Balance from last Account	0	9	0
To Balance carried forward	0	9	6	By Dividends on £72 L. & N.W. Railway 4 per Cent. Preference Stock	2	15	6
	3	4	6		3	4	6
GODWIN BURSARY:—							
To Cash paid Bursar 1895, 1st instalment [A. W. Cleaver]	20	0	0	By Balance from last Account	38	1	11
To Cash paid Bursar 1896, 1st instalment [A. N. Paterson]	20	0	0	By Dividends on £1030 Caledonian Railway 4 per Cent. Debenture Stock	39	16	6
To Balance carried forward	37	18	5				
	77	18	5		77	18	5
GRISSELL LEGACY:—							
To Balance from last Account	12	17	8	By Dividends on £260 Great Indian Peninsula Railway 5 per Cent. Stock	15	14	2
To Cash paid Prizeman [J. H. Tonge]	10	10	0	By Balance carried forward [deficit]	17	11	6
To Cost of Medal	9	18	0				
	33	5	8		33	5	8
LIBRARY FUND:—							
To Purchase of Books, Binding, &c.	160	14	1	By Balance from last Account	52	2	2
To Printing, Stationery, &c.	9	8	3	By Annual Donation from Mr. Sydney Smirke	5	0	0
To Petty Expenses	6	7	0	By Entrance Donations of eight Hon. Associates	16	16	0
To Balance carried forward	2	14	4	By Grant from Ordinary Funds	100	0	0
				By Fines (Loan Collection)	4	4	6
				By Donation to Nesfield Sketches	1	1	0
	179	3	8		179	3	8
OWEN JONES STUDENTSHIP:—							
To Balance from last Account	31	19	0	By Dividends on £1773. 6*s.* 8*d.* Midland Railway 3 per Cent. Debenture Stock	51	8	6
To Cash paid Student 1895, 2nd instalment [J. J. Joass]	25	0	0	By Dividends on £850 Great Western Railway 5 per Cent. Consolidated Stock	41	1	8
To Cash paid Student 1896, 1st instalment [H. C. Corlette]	25	0	0				
To Balance carried forward	10	11	2				
	92	10	2		92	10	2
PUGIN MEMORIAL FUND:—							
To Cash paid Student 1895 [A. J. Dunn]	40	0	0	By Balance from last Account	12	12	4
To Cost of Medal	1	9	6	By Dividends on £1070 L. & N.W. Railway 4 per Cent. Preference Stock	41	7	6
To Balance carried forward	12	10	4				
	53	19	10		53	19	10
TITE LEGACY FUND:—							
To Balance from last Account	4	6	10	By Dividends on £1150 2¾ per Cent. Consols	30	11	4
To Cash paid Prizeman 1894, Balance of Grant [A. R. Hennell]	10	0	0	By Balance carried forward [deficit]	3	15	6
To Cash paid Prizeman 1896, 1st instalment [N. A. Crouch]	20	0	0				
	34	6	10		34	6	10
TRAVELLING FUND:—							
To Balance from last Account	6	14	5	By Dividends on £830 Madras Railway 4½ per Cent. Stock	36	6	0
To Balance carried forward	29	11	7				
	36	6	0		36	6	0

Examined with the several vouchers and found to be correct. 12*th April* 1897.

(Signed) EDMUND WOODTHORPE.
OWEN FLEMING.

Dr. *Balance Sheet of Trust Funds, 31st December 1896.* **Cr.**

	£	s.	d.	£	s.	d.
To ASHPITEL PRIZE FUND:—						
Capital—20 Shares in the Architectural Union Company, Limited, at £14 per Share				280	0	0
Balance at credit of Revenue Account				10	17	0
To CHARITABLE FUND:—						
Capital—£200. 10s. 2¾ per Cent. Consols				195	14	9
Balance at credit of Revenue Account				0	16	8
To DONALDSON TESTIMONIAL FUND:—						
Capital—£72 L. & N.W. Railway 4 per Cent. Preference Stock				89	0	0
Balance at credit of Revenue Account				0	9	6
To GODWIN BURSARY:—						
Capital—£1030 Caledonian Railway 4 per Cent. Debenture Stock				1344	13	6
Balance at credit of Revenue Account				37	18	5
To GRISSELL LEGACY FUND:—						
Capital—£300 Great Indian Peninsula Railway 5 per Cent. Guaranteed Stock				513	14	10
To LIBRARY FUND:—						
Balance at credit of Revenue Account				2	14	4
To OWEN JONES STUDENTSHIP:—						
Capital—£1773. 6s. 8d. Midland Railway 3 per Cent. Debenture Stock	1773	9	0			
£850 Great Western Railway 5 per Cent. Consolidated Stock	1450	12	0			
Balance at credit of Revenue Account	10	11	2			
				3234	3	2
To PUGIN MEMORIAL FUND:—						
Capital—£1070 L. & N.W. Railway 4 per Cent. Preference Stock				1342	12	6
Balance at credit of Revenue Account				12	10	4
To TITE LEGACY FUND:—						
Capital—£1150 2¾ per Cent. Consols				1109	1	6
To TRAVELLING FUND:—						
Capital—£830 Madras Railway 4 per Cent. Stock				1094	7	0
Balance at credit of Revenue Account				29	11	7
To ALDWINCKLE STUDENTSHIPS FUND:—						
Balance at credit of Revenue Account				150	0	0
				£9448	5	1

	£	s.	d.	£	s.	d.
By Government and other Securities for total value of Trust Funds invested				9192	16	1
By Cash in hands of Bankers				234	2	0
By the following Accounts [deficit balances]:—						
Grissell Legacy	17	11	6			
Tite Legacy	3	15	6			
				21	7	0
				£9448	5	1

Examined with the several vouchers and found to be correct. *12th April* 1897. (Signed) { EDMUND WOODTHORPE. OWEN FLEMING.

In conclusion the Council submit an Estimate of Income and Expenditure of Ordinary Funds for the twelve months of 1897, exclusive of Entrance and Final Examination Fees:—

EXPENDITURE.	£	s.	d.
Rent, Lighting, and Warming	850	0	0
Salaries	1050	0	0
General Printing, Stationery, Postage, and Petty Expenses	425	0	0
General Meetings, Exhibitions, &c.	170	0	0
Housekeeping (including Office Attendant, &c.)	120	0	0
Advertisements	45	0	0
Examination Expenses (Statutory and Institute)	275	0	0
General Repairs	100	0	0
Fire Insurance	25	0	0
Medals and other Prizes	140	0	0
Library Grant	100	0	0
Architectural Association Grant	100	0	0
JOURNAL (2,350 copies): Reporting, Printing, Binding, Carriage, &c.	1200	0	0
KALENDAR (2,500 copies)	150	0	0
Contributions to Allied Societies	225	0	0
Legal and other expenses	50	0	0
Jubilee Celebration	100	0	0
Contingencies	275	0	0
	£5400	0	0
Estimated Balance	600	0	0
	£6000	0	0

INCOME.	£	s.	d.	£	s.	d.
Subscriptions and Arrears				4530	0	0
Dividends on Stocks and Shares				120	0	0
Sale of Publications (other than JOURNAL and KALENDAR)				125	0	0
JOURNAL—						
Sales	30	0	0			
Advertisements	500	0	0			
				530	0	0
KALENDAR—						
Sales	20	0	0			
Advertisements	30	0	0			
				50	0	0
Use of Rooms				30	0	0
Examination Fees—						
Statutory	15	0	0			
Preliminary	380	0	0			
Intermediate	180	0	0			
Final (Extra Fees)	40	0	0			
				615	0	0
				£6000	0	0

DISCUSSION OF THE FOREGOING REPORT.

The adoption of the Report having been moved by the President, and seconded by Mr. Aston Webb,

MR. WILLIAM WOODWARD [*A.*] said he would like to make a few observations upon the Report before it was put for confirmation. The Governing Body of the Institute no doubt thought it a strong, vigorous, useful, and thoroughly up-to-date institution. But he and many of his professional brethren entertained different views, and he hoped to show that the Institute had not done what it might have done in the interests of the profession at large, and that what it had done had not been done in a manner conducive to the welfare of the Institute. The Institute might be characterised by the word "decadence"; and in proof of that he would call attention to the character of the meetings during the past session; at least on two occasions they were delayed because there were not sufficient present to form a quorum. That showed that there was a gradually decaying interest in the proceedings of the Institute. One reason for that decadence had been pointed out recently in the professional journals—namely, the mode of election of the Council and Standing Committees. Out of twenty-four required for the Council, there was prefixed to twenty-two an asterisk, which was misinterpreted by many members to mean that the Governing Body desired that those gentlemen should be re-elected; and with regard to the Standing Committees, out of sixty-four required, no fewer than fifty-nine had been nominated by the Council. Past elections showed that this mode of election simply carried on year after year the very same men with the very same ideas, and that therefore nothing fresh could be brought before the Institute. That mode of election should be altered; at least half the members of the Council and of the Standing Committees should be compelled to retire every two years, so that fresh blood might be brought in—at all events, the Governing Body should not be laid open to the rebuke that they were self-elected. He trusted the Associates, and all those who had the interests of the Institute at heart, would take strong steps, as they had the power to do, to get rid of the old mode of election. With regard to the work carried on by the Standing Committees, it was never the intention that these Committees should engage in discussions and arrive at conclusions with public bodies on matters affecting the profession at large without the slightest reference to the 1,600 men who formed the Institute. It was quite time that the power wielded by these Committees, and the influence they were supposed to exert by those not acquainted with the Institute, should cease, and some radical change be made. With regard to the financial part of the Report, the Institute must be congratulated upon the fact that, in place of the deficit of £152 last year, they had now a balance of income over expenditure of £591. That perhaps was due to a small extent to past auditors, who had recommended economies. Dealing with the items upon which saving had been effected, Mr. Woodward regretted the economy in the matter of medals and prizes. He was ignorant of the reasons for the reduction, but was sorry there should be any diminution in the sums voted for prizes. He regretted to see the item of £128 for solicitors. He could not understand why the Institute, constituted as the Standing Committees were of men possessed of considerable legal acumen, should continually incur expense for solicitors. Serving as auditor on one or two occasions, he had remarked that there was scarcely a question with regard to the Institute affairs but what the Committees consulted the solicitor, the solicitor in his turn employed counsel, and so much unnecessary expense was incurred. If the Committees would only exercise that talent in the conduct of the Institute affairs which they exercised in their own professional work, a considerable sum would be saved. Then there was an item of £29 11*s.* 10*d.* for the Manchester Dinner. He thought the reason for that expenditure should be explained. With regard to the accumulated fund and the estimates of property, that was a fiction which would probably be repeated for many years; it had no foundation in fact, and, he believed, was only an accountant's way of illustrating something which he (the speaker) at all events did not understand. Coming to the Report, the concluding paragraph on page 319 read, "The Special Committee appointed in December 1895 to consider the question of the nomination and election of Fellows," &c. A year and some months had elapsed since that Committee was formed, and no conclusion had yet been arrived at—he saw, however, they were promised the matter should be brought before them at the close of the present month. That was an instance of the extraordinary procrastination of the Institute Committees. It had taken the Practice Committee six years to come to a decision about the General Conditions of Contract—which, by the way, had never yet been agreed to, and were never used by the principal contractors—and sixteen months had elapsed since the Fellows Committee was appointed, and, as far as the General Body was concerned, nothing had been done. With regard to the Report of the Art Standing Committee, he would direct attention to the following paragraph on page 320: "Your Committee, having taken much interest in the proposed site for the intended new County Hall, were invited to an informal conference with some of the principal members of the County Council and certain of the head officials. The Chairman, Mr. W. Young, and the Honorary Secretary" (whether this was the Honorary Secretary of the Institute, or one of the Honorary Secretaries of the Committee was not clear) "were delegated for this purpose, and the meeting was held on 4th December 1896. The views of the Committee were laid before the Conference, and the Committee were thanked for the trouble they had taken in the matter." Here was a matter of intense interest to the whole of the profession, and of intense interest to the Institute, conducted entirely by two or three members of the Art Standing Committee; and the Institute was pledged to an expression of opinion about which the General Body knew nothing. He absolutely declined to recognise that as the opinion of the Institute. It was only the opinion of two or three members, who, without reference to or authority from the Institute, had met the London County Council and given their own personal views. Again, with regard to the preservation of old buildings. Speaking of the London County Council, the Report said: "With this view they obtained your consent to invite the co-operation of other societies interested in the matter." That was another subject upon which the General Body might have been made acquainted, to give members an opportunity of expressing their views. Then in the same Report there was a paragraph about Vauxhall Bridge, which stated that the Bridges Committee had proposed that a model "shall be made and submitted for the inspection of your Committee." It would be remembered that the designs for Northumberland Avenue were submitted for the inspection of the Institute. The result was that the Institute expressed its opinion about the buildings proposed for that Avenue. The Metropolitan Board of Works thanked the Institute for the trouble they had taken, but did nothing else. Therefore there was nothing much in that paragraph, because all that the London County Council had agreed to do was to get a model made for the inspection of the Committee. Another matter in the Committee's Report concerned him personally—namely, the paragraph about St. Martin's-in-the-Fields. For many years past he had advocated the formation of a podium to take the place of the steps of that church, and latterly, hearing from the Vestry that there was a proposal to take away the middle landing and throw the westernmost steps further east, so as to join those steps immediately west of the portico, he had made a special plan and elevations, and went to the cost of having a perspective view made. These he had sent to the Vestry of St. Martin's, and the Vestry, he believed, applied to the London County Council for a contribution for the formation of that podium and the alteration of the steps, which gave 12 feet to the public way. The Vicar of St. Martin's, who had constantly—and very rightly—objected to any alteration of the steps of St. Martin's, wrote to the Institute, soliciting its opinion on this proposal to build a podium. The Committee knew that he (Mr. Woodward) had been engaged in the matter, and that he was a member of the Institute. He thought that as a mere act of courtesy, before they wrote their reply to the Vicar of St. Martin's on his (Mr. Woodward's) proposal—perhaps they had not even seen the special drawings he had made—they should have communicated with him. But they wrote to the Vicar saying that they "consider the suggestion of Mr. Woodward is one which would be to the detriment of the front of St. Martin's Church." There was an instance where, he contended, the Committee had no right whatever to act. The Vicar of St. Martin's thought, not that this was the opinion of two or three members of the Committee who happened to be present at the meeting, but that it was the view of the Royal Institute of British Architects. But as a matter of fact the Royal Institute of British Architects was in absolute ignorance of the whole thing until this Report appeared. He strongly objected to such proceedings. When the

Standing Committees were formed, it was never intended that they should take such action as that, without the assent of the Institute. [Having commented adversely upon the Paper on "The Sculptor's Architecture of the Renaissance," arranged for by the Art Standing Committee, Mr. Woodward proceeded to call attention to a paragraph headed "Mr. Statham's Paper," on p. 313, JOURNAL, No. 12, the last sentence of which he objected to, whereupon the President requested the speaker to confine his observations to the Report before the meeting.] Coming to the Report of the Literature Standing Committee, Mr. Woodward said that the last paragraph referred to Mr. Beazeley, the Librarian, having resigned at the end of last year, and that the Librarian's Report had been made by Mr. Rudolf Dircks. He was very sorry—possibly he may have missed it in the JOURNAL—they should lose the services of a gentleman who had been connected with the Institute for so many years, and should simply be told of his having resigned at the end of last year, as if it were of no moment whatever to the Institute that they should lose the services of an old and valued servant, if he might so call him. In the Report of the Practice Standing Committee a most important question was mentioned—the question of payment of architects' fees by fire insurance offices in connection with the reinstatement of buildings after fire. He had referred to this subject last year, and he found that the Committee, on page 174 of the JOURNAL of February 4th (No. 7), used these words: "The Association" (that is, the Association of the principal fire insurance offices) "did not see their way to such action. It was of no use to detail the various points raised." That was the Report of the Practice Standing Committee with reference to the subject which had resulted in distinct injury to the profession, because until the Institute took action the insurance offices looked with a kindly eye upon allowing the architect's commission in cases of reinstatement; and now they had made up their minds, in consequence of the action of the Institute, that they would not permit the architect's commission to be paid by the fire insurance offices. The Committee had made a muddle of it. Then there was a letter to the Committee respecting architects participating in commissions, and reports to be made. Then the concluding paragraph of the Practice Committee's Report said: "The amended Paper on the subject of the professional charges of architects prepared by a sub-Committee has received much attention, and is still under consideration." The question of professional charges of architects, of course, was one of much moment to the profession; and bearing in mind the way in which the Conditions of Contract were carried out in a similar way by this Committee, who had given such consideration to it for six or seven years, he would ask that the actual proposals should be printed and circulated to every member before any decision or approach to a decision was come to. The report of the Science Standing Committee referred to the series of experiments on brickwork. One of the most useful acts ever done by any Committee of the Institute was to organise those experiments. He saw that further experiments were about to be made, and he hoped that the observations made in the discussion on that Paper would lead the members of this important Committee to see how necessary it was that about a dozen points, which they altogether forgot in the experiments, should be filled in on this occasion. Then there was another paragraph in the Science Committee's Report still supporting his view that the Standing Committees went beyond their powers. It read: "The draft Bye-Laws of the London County Council with respect to drains, pipes, &c., under section 202 of the Metropolis Local Management Act 1855, having been referred to the Committee by the Council, received careful consideration, and a report on the subject suggesting some important amendments was furnished to the Council. This has been adopted by the Council and forwarded to the London County Council." Was not that a subject that the Institute should have been consulted upon? He trusted members of the Institute would take steps to prevent the Standing Committees acting on their own initiative in such matters. In conclusion, on the estimate for the year 1897 there appeared an item, "Jubilee Celebration £100." He was a most loyal subject, and would be the last to object to the expenditure of money by the Institute on the Jubilee Celebration; but he should like some details as to how it was proposed to expend that £100.

MR. J. TAVENOR PERRY [*F.*] contended that the position the Council had put architects in by their futile applications to the fire insurance offices to receive commissions had degraded the profession in the eyes of all fire insurance surveyors. The Council had from one insurance office (the "Imperial") a sort of admission that they might, under certain circumstances, allow 5 per cent. to the architect who was employed. Mr. Mundy in a letter published in the JOURNAL pointed out that, supposing the architect were to get from a fire office such a consideration as that, they would give him a commission of 5 per cent. or some other commission, which he would have to share with auctioneers, or undertakers, or with any other person who was appointed by a fire insurance office to act for him; and the insurance offices would not set up certainly an examination in architecture, to ascertain whether the person making the application was a member of the Royal Institute of British Architects or not, and therefore it had been a very satisfactory result that they had now refused absolutely to give any commission to any architect for any services whatever; they were insured. Within the last three years he had had occasion to certify an amount of £450 for surveyors' fees insured. There was no office now in London, not even the "Imperial," that would pay any insurance surveyors' fees, except by a perfectly private arrangement; but it was much more difficult to do that now than it was. He would like to mention one other matter in the Practice Standing Committee's Report, because he thought it was an insult to architects: "Letters were referred to the Committee by the Council respecting architects participating in the commission of quantity surveyors; also respecting charges and duties of architects and other matters." The first clause in that sentence was an insult to every architect who was capable of taking and did take out his own quantities. He had always been in the habit of taking out his own quantities, and therefore it was obvious that he did not share that commission with anybody, because he took the commission himself. His fees were 7 per cent.—5 per cent. for architecture and 2 per cent. for quantities—and he always had them.

MR. ASTON WEBB [*F.*], F.S.A., said he would be glad to reply to some of the points raised by Mr. Woodward, leaving others to be answered by those who had a more intimate knowledge of them than he had. With regard to the "decadence," as Mr. Woodward called it, of the attendance at meetings, that, he thought, rested with the General Body, not with the Council. The Council did their best to provide good Papers; and if the members did not attend, the fault was not the Council's. With regard to the small attendance that evening, it showed, he thought, that there was a general feeling of satisfaction with the way the affairs of the Institute were conducted. In the case of a company meeting, when the shareholders did not turn up it was generally a sign that there was not very much to complain of, or else they would have been present. For himself, he considered that the affairs of the Institute were in a flourishing condition, and the Institute had made distinct progress during the last few years. Not only the Council, but the members generally, had all endeavoured to make it a more active body and to keep it up to date. If any suggestions were made, they were always considered and acted upon as far as possible; and without being a constant meddling body, taking up every little point that might be proposed, they had made steady progress. They had a larger number of members, a larger subscription list, and this year they had a surplus as well. With regard to Mr. Woodward's complaint that the Standing Committees did not refer all the points which came before them to the General Body, his answer was that it would be absolutely impossible. What was the use of a Committee if one could not delegate to them some powers? The Committees were appointed to deal with certain matters, and at the end of the year they reported upon what they had done. Of course, such a question as alteration of charges would come before the General Body for discussion as before; and if any alteration were suggested, the matter would be brought before the members, and, if the members wished it, they could have full information of those cases before they were discussed later on. Then with regard to the decrease in the amount given for "Medals and other Prizes," that decrease was only due to the accident of the Soane Medallist not having gone abroad. With regard to solicitors' charges, the Standing Committees were certainly not in the habit of consulting solicitors at every twist and turn; as a matter of fact, they would have to apply to the Council before doing so. The amount set down for solicitors' charges was in connection with the question he had a full opportunity of explaining at the last Annual Meeting; the charges were then explained, but they came into the present year's account. The solicitors had hardly been applied to at all this year. With regard to the "Manchester Dinner," that increase arose mainly through the guests who were invited. It was an Institute dinner, and many distinguished men at Manchester were invited, to give importance to it, and the Institute paid for them as guests; the members of the Institute paid for their own dinner. As to the item of £100 for the Jubilee Celebration, it was impossible for the Council to know exactly what would be required for that. It had been the habit on great occasions such as this to illuminate the front of the building, and that, he thought, they ought to do. The cost would be about £25. There was also the illuminated address which all loyal bodies present on these occasions, and there might be other small charges. If nothing further was required, the whole £100 would not be spent. With regard to St. Martin's Church, the Rector brought that matter before the Council, stating Mr. Woodward's views, and it was referred to the Art Committee and fully discussed by both. The suggestion of Mr. Woodward was thoroughly understood, but the Council came to a decided opinion that it would be very undesirable to cut off the western steps and alter that end of the church. It was pointed out in Mr. Christian's time—and it had also been pointed out since—that though the roadway was somewhat narrow there, a block rarely occurred at that point. Up St. Martin's Lane there was frequently a block, but not before the church. It was not desirable to ruin the church on account of the traffic in front of it, when no inconvenience arose from that traffic.

Mr. OWEN FLEMING [*A.*], speaking for the Art Committee, said they were most anxious to be in harmony as far as possible with the Institute. There were occasions when it was not possible for them to consult either the Council or the General Body. Such a case arose in regard to St. Mary Woolnoth, where the Committee had to appeal to Parliament within three or four days to induce the House of Lords to re-insert the clause that they had omitted in consequence of an agreement that had been arrived at between the Vicar of that church and the City and South London Railway Company. The Committee were successful in their opposition, and happily that church would remain, although unfortunately the railway station would be underneath it. In that case the Committee were unable to go to the Council; but in every other instance they had acted with the concurrence of the Council and in close consultation with them. At every meeting the Committee had instructions from the Council or intimations from them, and he doubted whether they had the power to act without the Council. With regard to the new County Hall, the Art Committee of course felt the grave importance of the subject, and had taken unusual pains to acquaint the members of the Institute with their views on the matter. This was the third Report which had appeared of their action since the last Annual Report; and if it had not been that the Select Committee of the House of Commons removed the necessity of further discussion of the Trafalgar Square proposal, the Institute would have had an opportunity of going fully into the matter. The meeting was actually arranged, and it was only the decision of the Committee of the House of Commons that prevented its being held. With regard to the preservation of old buildings, if Mr. Woodward would read the Report carefully, he would see that the matter did not go so far as the preparation of any list. The words of the Report are: "At the invitation of the London County Council your Committee consented to prepare a list of buildings in London which may be said to possess historic and architectural interest." If the Committee had gone on with that list, they would naturally have come to every member of the Institute to have asked them to co-operate in a very large and important task; but the County Council took the matter out of the hands of the Institute by themselves calling the Conference, and now it rested with the County Council. As it would be a waste of labour for both the Institute and the London County Council to be preparing similar lists, it would rather be for the Art Committee to co-operate with the County Council in that matter. With regard to Vauxhall Bridge, the Committee were only able to report that the Chairman of the Bridges Committee had promised that a model of the proposed new bridge should be made and submitted for the inspection of the Committee, and of course of the Institute. The Committee would have liked the Chairman of the Bridges Committee to have gone further, but that was as far as he was able to go. The Committee had reported the facts, and he did not see how they could have done anything more. With regard to St. Martin's-in-the-Fields, he thought Mr. Woodward was in error when he said that the Committee did not have the drawings. There were not only plans and elevations to a large scale of Mr. Woodward's suggestion, but also a perspective sketch of the proposal, before the Committee. The matter was discussed; the Committee were nearly an hour going into the question, and they ultimately came to the conclusion that Mr. Woodward's suggestion was not the best way of dealing with those difficulties, and they reported so to the Council.

The HON. SECRETARY, answering Mr. Woodward's objections as to the delay in submitting to the General Body the Report of the Special Committee on the election of Fellows, stated that the Council had given extraordinary consideration to this subject. The Special Committee had held a large number of meetings; they often met at 2 o'clock, and did not separate till 7. All the questions and suggestions had to be submitted to the Allied Societies; and the very fact of its being mentioned in the Report that they were in consultation with the Allied Societies fully accounted for the time that was spent in these proceedings.

Mr. EDWIN T. HALL [*F.*], in reply to Mr. Woodward's remarks as to the mode of nominating the Council and Standing Committees, said that Mr. Woodward must recognise that, in order to get an election, there must be some list made. The wisdom of the Institute (not of the Council or of the Committees) decided that that should be made by the Council and each of the Committees issuing a list for the consideration of the members of the Institute, and that then members of the Institute, if they had any other names to substitute, could do so by the simple form prescribed in the By-laws. The Council did not nominate a single member of the Standing Committees. The Standing Committees had to send in a list to the Council of the gentlemen they suggested. Very often they could not get new members to stand. They must therefore make up a list the best way they could; and it was submitted two or three weeks before this meeting, in order to be amended at this meeting, and that was the machinery provided by the By-laws. Mr. Woodward found great fault with the activity of the Council and Standing Committees on public matters. Would Mr. Woodward prefer the old system, when the Institute's voice was never heard or listened to anywhere outside those walls? Where years ago the Institute was consulted on one point, it was now consulted on twenty. Whether the practice would grow or not was for the Institute to decide; the fact remained that the Institute outside was listened to with respect. The County Council sent its By-laws for the Institute to consider. They never used to do such a thing. With regard to matters of detail, it was perfectly impossible for a large public meeting to settle details of any document—it must be done in committee. With regard to the observations respecting the Report of the Practice Committee, he did not know whether it was a matter of commendation or otherwise when Mr. Woodward complained that the Committee took six years to settle the General Conditions of Contract. Did Mr. Woodward suppose that the gentlemen, who sometimes met twice a week for three hours' sitting, for a considerable time, who had constant correspondence and interviews with the builders and so on, did all that for the love of meeting and of talking? That was done with the sole desire to benefit this Institute, and the Practice Committee ventured to think they did very good work. The result had been that some thousands of copies of the new form of Contract had been sold. As to the objection that contractors refused to sign that document, he had only heard of one leading contractor who objected to sign it; but he knew of many leading men in London who had signed it, and one had said to him that, although it did not give them all they desired, it was a far better document than they had ever had before. The second paragraph of the Report of the Practice Standing Committee dealt with "The question of the payment of architect's fees by fire offices in connection with the reinstatement of buildings after fires." He challenged Mr. Tavenor Perry, who had made a statement, to verify his statement in the slightest degree. He said that the result of this had been that all the fire offices had absolutely declined to pay the fees on the reinstatement of buildings after fires.

Mr. TAVENOR PERRY: They have given written instructions that they were not to be paid.

Mr. E. T. HALL: The printed instructions say the companies shall not pay fees for making claims. Is not that so?

Mr. TAVENOR PERRY: No, it is not.

Mr. E. T. HALL, continuing, said that the instruction the fire offices had given was that they should not pay for making claims. There was not a word in the Practice Standing Committee's Report about fees for making claims. The reason for taking the subject up at all was that the Committee felt it was dishonouring to architects that, if they had to get their fees at all, it should be by a sort of subterfuge. The fire offices would allow the architect's fees on the building, but it was often done by adding it on to the builder's charges, so that the item did not appear. The Committee wanted it to be clearly stated that these fees of an architect were to be paid when he was *bonâ fide* employed to reinstate a building after fire. The Imperial Fire Office had stated in that case that they allowed the architect's commission. And he would offer this challenge: he would say that where it was proved to be necessary to employ an architect to reinstate a building after fire, any one of the offices would allow those fees, but would not pay for making claims. Mr. Mundy had written a long letter the whole gist of which was against the claim-maker. The claim-maker might be of no profession whatever, and the fire offices very properly set their face against such a class of people, and the Committee had differentiated between the architect and the claim-maker. He was astonished to hear that it was an insult to architects for the Practice Committee to report that a letter had been sent to them on the subject of architects sharing in surveyors' fees. As a matter of fact a member of the Institute wrote and asked the Practice Committee through the Council whether it was right for architects to take part of the fees received by quantity surveyors appointed by them. The Committee answered that it was not right, because the Institute itself, several years ago, had pronounced on the subject, and said that it was not right. Was that an insult to architects? Mr. Woodward had asked if the amended Paper upon the subject of professional charges would be submitted. Of course it would; the Council had no power to issue an Institute Paper until it had come before the Institute. The Council were constantly receiving letters from members asking what they were to do in certain circumstances. The Institute scale did not tell them how to charge or what to do in certain cases. The Committee were trying to re-edit this Paper, to make it clear to architects how to charge, what to charge, and what not to charge. Surely that was work for which the Committee deserved the thanks of the Institute.

Mr. J. TAVENOR PERRY [*F.*], in answer to Mr. Hall, said it was a fact, which he was able to substantiate, that the insurance fire offices had definitely refused to pay architects who surrendered reinstatements. He would give a case in point where there were three architects on a building of his—one a surveyor of the City boundaries, one representing a mortgagee in possession, and one representing the leaseholder—and they were all asking for fees, and they were all members of the Institute. [Mr. HALL pointed out that that did not affect the question the Practice Committee had dealt with in their Report.]

Mr. DELISSA JOSEPH [*F.*] said that with regard to the item of the accounts for the Jubilee expenses, as far as he understood, all the Institute intended to do was to present a loyal address and to illuminate the front of the building. The idea had occurred to him and to others that it would be appropriate if the Institute were to take some steps beyond the purely formal steps which were proposed. The difficulty with regard to an exhibition was not small, but the other Arts were taking part in an exhibition, and he was surprised to find at the Earl's Court Exhibition that the architects, except with regard to theatres, were not to be represented. It seemed to him that a retrospective exhibition of the most characteristic buildings during the last sixty years would draw an unusual amount of attention, and would be a source of great interest and considerable value. It would probably have the effect of popularising architecture, and that was a direction in which the Institute might usefully concern itself, as other artistic bodies had endeavoured to popularise the other Arts. He put this in the form of a question as to whether the Council had in contemplation the idea of showing, by way of an exhibition, or by way of a publication which would form a record of architecture in the British domains, the progress made within the past sixty years.

Mr. H. HEATHCOTE STATHAM [*F.*] thought that Mr. Delissa Joseph's suggestion about a "Publication" might be more useful and more feasible than an exhibition, and he would remind the meeting that the German Berlin Architectural Society had recently produced a very fine and interesting volume on its own architecture. That was a sort of precedent. If the Institute could devote any of its Jubilee fund to publishing a short sketch of the architecture during the Queen's reign, with sketches of public buildings, it might have a more permanent interest than an exhibition, and be more easy to carry out. It could be brought before the public, sent to be reviewed in the daily papers, and some public notice be taken of it; whereas, if an exhibition were got up, it was a question whether the public would come to it. Moreover, the publication would be permanent, and the exhibition would not be permanent. [It was ultimately agreed that Mr. Delissa Joseph's suggestion should be considered by the Council, see Minutes, page 342.]

Mr. BERESFORD PITE [*F.*] thought it would be well to direct attention to the last paragraph of the Report of the Council on page 320, in which it was said: "The present Jubilee year is also the Jubilee of the Architectural Association, and the Council are glad to have the opportunity of expressing their appreciation of the efforts of that body in the cause of architectural education." He should like to call the attention of the Council to the fact of the grant that was made last year. A vote of thanks had been passed by the Committee of the Architectural Association and forwarded to the Council of the Institute. He did not think that appeared among its records; but inasmuch as the grant was made last year at a public meeting, the Association desired to tender their thanks for the support the Institute had rendered to them, and they also thanked the Council for including in their Report the reference to the Jubilee celebrations which were about to come on. The Association had organised a small exhibition illustrating the progress made in the ranks of the Association during the last fifty years. The Council had given permission for it to be held in the Institute Rooms, and it would be opened on Thursday afternoon.

The PRESIDENT, referring to the work of the Committees, observed that many of the questions that came before them were very urgent, and, unless a thing could be sent formally to the Committees to consider, it would be too late. Mr. Dicksee had called one morning on him, about the question of the By-laws of the County Council, to say that, unless a meeting of the Council could be called, the Institute's opinion would not be considered, as the time had almost elapsed; and the Council was called, and the County Council memorialised to allow the matter to stand over for some time. There was no desire whatever on the part of the Council to keep things away from the Institute; in fact, it was quite the reverse. With regard to Mr. Woodward's remarks about Mr. Gilbert's Paper, he should like to say a few words. It so happened that on that occasion he was unable to be present, and it was only the other day that he had the opportunity of reading the Paper. It struck him as being so very valuable a communication to the Institute that, in spite of being much pressed for time, he wrote to Mr. Gilbert to say how extremely delighted he was, and how sorry he was that he had not been present. There was very little said in the Paper, but what was said was of the greatest value, and was said by one of the great creators of the day as to his view of the ideas which animated the sculptor-architects of the Renaissance. Surely that was a great deal, when they had it from a man who was one of the great sculptors, and certainly the finest statuary we had in England, and those most capable of judging considered him to be the finest worker in the precious metals who had appeared since Benvenuto Cellini. To have that man tell them from his own feelings what he imagined must have been the feelings of the sculptor-architects of the Renaissance was something that they could not get every day. They could get the drawings, perhaps even models of these buildings. People in the present day could form their own judgment; but they wanted the animating idea that suggested to these men, who knew nothing at all about architecture, that they should like to be architects; and he thought that that was really a most valuable thing for the Institute to have had.

[The Report was thereupon put from the Chair, and approved and adopted by the Meeting.]

INCORP. 1837 1887

9, Conduit Street, London, W., *6th May* 1897.

CHRONICLE.

THE COUNCIL 1897–98.

Nominations by Fellows and Associates.

The following nominations to the Council have been made by Fellows and Associates under the provisions of By-law 30, namely:—

George Henry Bibby [*F.*]: nominated by William Lovell Mason, Yeoville Thomason, George Highton, Arthur Ardron, Fredk. Wm. Tarring, C. W. Lovell, *Fellows*; W. Arthur Webb, Wm. Woodward, Geo. Harvey, and John Hudson, *Associates*.

Delissa Joseph [*F.*]: nominated by Benjn. Tabberer, F. Hammond, William Wimble, Francis Chambers, Edmund Woodthorpe, Thomas Edward Knightley, and W. Hilton Nash, *Fellows*.

THE STANDING COMMITTEES 1897–98.

Nominations by Fellows and Associates.

The following nominations to Standing Committees have been made by Fellows and Associates under the provisions of By-law 49, namely:—

Art Standing Committee.

William Arthur Webb [*A.*]: nominated by George H. Bibby, Fredk. Wm. Tarring, W. L. Mason, and John Hebb, *Fellows*; Albert E. Gough, Paxton Watson, and Wm. Woodward, *Associates*.

Practice Standing Committee.

James Osborne Smith [*F.*]: nominated by John Clarkson, S. Flint Clarkson, Ed. W. Mountford, Edwin T. Hall, Henry Tanner, *Fellows*; and P. L. Waterhouse and F. H. A. Hardcastle, *Associates*.

Architectural Congress at Brussels.

On the occasion of the twenty-fifth anniversary of the foundation of the Société Centrale d'Architecture of Belgium a Congress will be held in Brussels, in connection with the International Exhibition, from the 28th August to the 2nd September. The Société Centrale d'Architecture has sent a courteous letter to the Institute inviting delegates to the Congress, as well as individual members. Several important questions are already set down for discussion, among the most interesting of which is one concerning the restoration of ancient monuments, and one with reference to means of assuring to architects an "artistic ownership" in their works. In addition to the conferences, there will be various lectures, excursions, and fêtes.

Books received for Review.

The Law relating to Civil Engineers, Architects, and Contractors. With a chapter on Arbitrations. By L. Livingston Macassey, Barrister-at-Law, author of "Private Bill Legislation," and J. Andrew Strahan, M.A., LL.B., Barrister-at-Law, Author of "A General View of the Law of Property." Second Edition. 8o. Lond. 1897. Price 12*s.* 6*d.* [Messrs. Stevens & Sons, Limited, 119 and 120, Chancery Lane, W.C.]

Stones for Building and Decoration. By George P. Merrill, Curator of Geology in the United States National Museum. Second Edition, revised and enlarged. 8o. New York and Lond. 1897. [John Wiley & Sons, New York; Messrs. Chapman & Hall, Ltd., 11, Henrietta Street, Covent Garden, W.C.]

On the Muhammadan Architecture of Bharoch, Cambay, Dholka, Champanir, and Mahmudabad in Gujarat. By Jas. Burgess, C.I.E., LL.D., F.R.S.E., &c., &c. Roy. 4o. Lond. 1896. London, Wm. Griggs & Sons, Ltd.; Bernard Quaritch; A. Constable & Co.; Kegan Paul, Trench, Trübner & Co.; Luzac & Co.; Calcutta: Thacker, Spink & Co.; Bombay: Thacker & Co., Ltd.

Sketches of Travel in Normandy and Maine. By Edward A. Freeman, with illustrations from drawings by the author, and a preface by W. H. Hutton, B.D., Fellow and Tutor of St. John's College, Oxford. 8o. Lond. 1897. Price 8*s.* 6*d.* [Messrs. Macmillan & Co.]

A Report on the Island and Temples of Philæ. By Captain H. G. Lyons. With an Introductory Note by W. E. Garstin, C.M.G., Under-Secretary of State for Public Works Department in Egypt. Printed by order of H. E. Hussein Fakhri Pasha, Minister of Public Works. Fo. Lond. 1897. Messrs. Waterlow & Sons, Ltd., printers, London Wall.

Bell's Cathedral Series, edited by Gleeson White and Edward F. Strange.

Chester. By Charles Hiatt.
Oxford. By Rev. Percy Dearmer, M.A.
Rochester. By G. H. Palmer, B.A.

8o. Lond. 1897. Price 1*s.* 6*d.* each. [Messrs. Bell & Sons, York Street, Covent Garden, W.C.]

Additions to the Library.

Mr. D. H. S. Cranage has now completed the third part of his *Architectural Account of the Churches of Shropshire*, dealing with the franchise of Wenlock and the hundred of Overs, and has presented a copy to the Library [Wellington: Hobson & Co.]. This part, like its predecessors, contains reproductions of numerous excellent photographs.

Mr. J. Andrew Strahan [*H.A.*] has presented the second edition of *The Law Relating to Civil Engineers, Architects, and Contractors*, of which he is, with Mr. J. Livingston Macassey, the joint author [London: Stevens & Sons].

The Orientation or Direction of Temples, a Paper contributed by Mr. William Simpson [*H.A.*], R.I., to the Ars Quatuor Coronatorum, has been received from the author.

Mr. J. Stübben [*Hon. Corr. M.*] has presented Nos. 11, 12, and 14 (vol. 17) of the *Centralblatt der Bauverwaltung*, containing an article by him on "Aosta: die Stadt unde ihre Bauwerke." The same author has also presented his pamphlet *Das Sternthor zu Bonn und seine Erhaltung*, possessing numerous illustrations, plans, &c. [Bonn: P. Hanstein].

From Prof. Otto Wagner [*Hon. Corr. M.*] has been received *Moderne Architektur*, a little work from his pen, in which he expresses the opinion that contemporary views of architecture must be brought more into harmony with contemporary life [Vienna: Anton Schroll & Co.].

The second edition of *The Formal Garden in England*, by Reginald Blomfield and F. Inigo Thomas, has been added to the Reference Library [London: Macmillan & Co.].

Modern House Interiors, a Paper originally read by Mr. T. Butler Wilson before the Leeds and Yorkshire Architectural Society, and since published, "by request," in pamphlet form, deals with the subject of internal decoration, and the relationship of the architect to his client in regard to this matter.

Mr. Norman C. H. Nisbett, the author, has presented *Wolvesey Castle in the Twelfth Century*, a Paper reprinted from the *Hampshire Field Club Papers and Proceedings*, containing a plan, based on recent explorations, and measured and drawn by the author.

The following books have been recently added to the Loan Collection:—Britton's *Bath Abbey*, *York Cathedral*, *Oxford Cathedral*, and *Wells Cathedral*; the fourth edition of Parker's *Glossary of Architecture* (3 vols. 1845); and the second edition of Prof. Banister Fletcher's *Arbitrations*.

Mr. S. S. Beman, of Chicago, has presented the first number of a new American quarterly, *The Architectural Reviewer*, which contains an account of his work at Pullman City and elsewhere, furnished with some sixty illustrations.

THE CONSTRUCTION OF HOSPITALS.

By William Henman [*F.*].*

THE action of H.R.H. the Prince of Wales in advocating better support for hospitals as a fitting memorial of the sixtieth year of the glorious reign of our Gracious Majesty Queen Victoria will, I trust, not only result in replenishing the coffers of many admirable institutions, but in a special manner direct public attention to the true uses and requirements of hospitals, because there is reason to believe that, notwithstanding the advance which has been made during this century in their design and construction, and the large sums of money which have been expended thereon, the growth of knowledge relating to health and disease, and improvements in surgical methods and appliances, will make further demands upon architectural skill to devise and equip buildings even still more suited for the nursing and cure of our fellow-creatures attacked by maladies or suffering from injury. Consequently the present seems to be an appropriate time for discussing the subject.

About three years ago I had the honour of reading to the members of the Leeds and Yorkshire Architectural Society a Paper upon "Hospitals," which was published in the JOURNAL of the Institute.† I dealt then somewhat fully with their development and requirements. Many of you may have read what I then had to say upon the subject; it is therefore unnecessary that I should again go over the same ground; but in order that you may the better be able to follow the observations I have to lay before you, it is advisable I should summarise my previous remarks. I opened them by depreciating the formulation of an ideal or model hospital plan. Knowledge and science are advancing, localities and requirements differ, and consequently time and place must cause variety in plan and treatment. Yet hospital authorities are agreed that buildings should, as a rule, be permanent in character, and be erected with sound and substantial materials.

These conclusions may appear to be antagonistic, and yet on close examination they will be found to be thoroughly reasonable, because it is more particularly in matters of detail that advance must be looked for. Given a suitable area of site, with well lighted wards of adequate dimensions, a properly planned administrative department, all arranged with due regard to aspect, there is no reason why such a building, if substantially erected, properly drained, and supplied with simple but effective sanitary appliances, should not, so long as it is efficiently maintained and periodically cleansed, be thoroughly serviceable for hospital purposes.

Doubtless many hospital buildings throughout the country have rightly been condemned as insanitary, yet others are far from being in that hygienic state which ought to be demanded—some in consequence of original defects in planning or construction, some by injudicious alterations and additions, but many more resulting from defects in matters of detail which if thoroughly rectified would often place such buildings in a healthy condition, and make them capable of serving the purposes for which they were erected in a far more efficient, and maybe entirely satisfactory, manner. It is to some of these matters of detail I propose more particularly to direct your attention, as well as to indicate the lines on which modifications in plan may in time be brought about by the employment of mechanical means for securing ventilation.

On the previous occasion to which reference has been made I touched upon the authorities whose excellent publications have greatly assisted in opening the public mind to the importance of hospital design and construction. I reviewed briefly the development of plan from an ordinary dwelling used for nursing the sick, discussed the relative merits of rectangular and circular wards, and insisted upon the advantages of suitable artistic design, particularly for the exteriors, by which the importance of the work carried on within may receive due recognition. I mentioned that of the numerous class of hospitals, all have a primary and common object, viz. the cure or alleviation of suffering caused by disease, or the repair of bodily hurt, and stated that there are a few well assured essentials, universally recognised, which must be secured in and about such buildings, the chief of which are *light* and *pure air*, the next in importance being convenience of supervision and of administration.

The work on which I have been particularly engaged during the last four years in connection with the New General Hospital at Birmingham, now nearing completion, warrants me, I trust, in dealing at the present time principally with the design of large town hospitals. There is a matter in connection therewith of considerable importance, which in every locality is sure to lead to warm dis-

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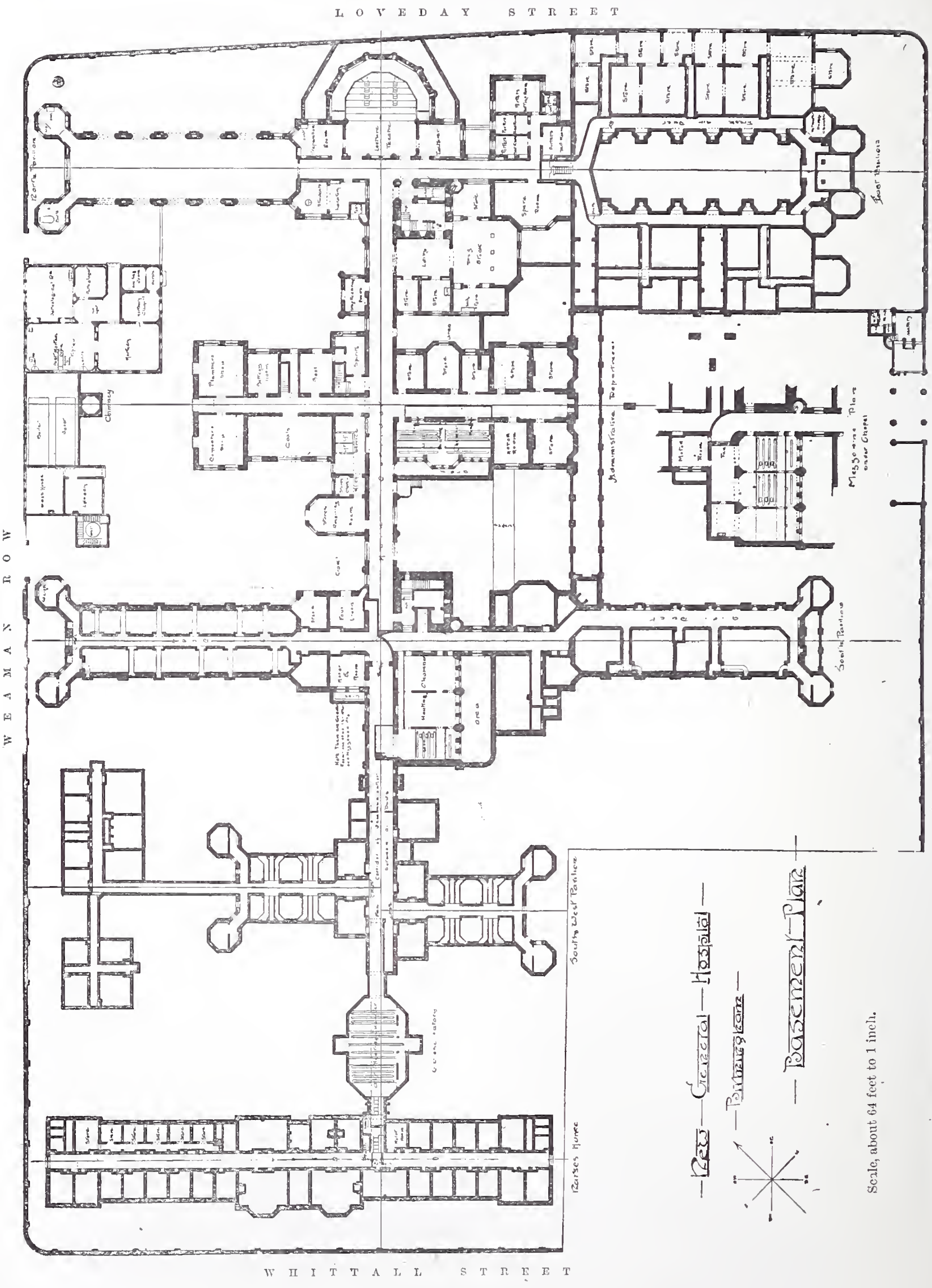
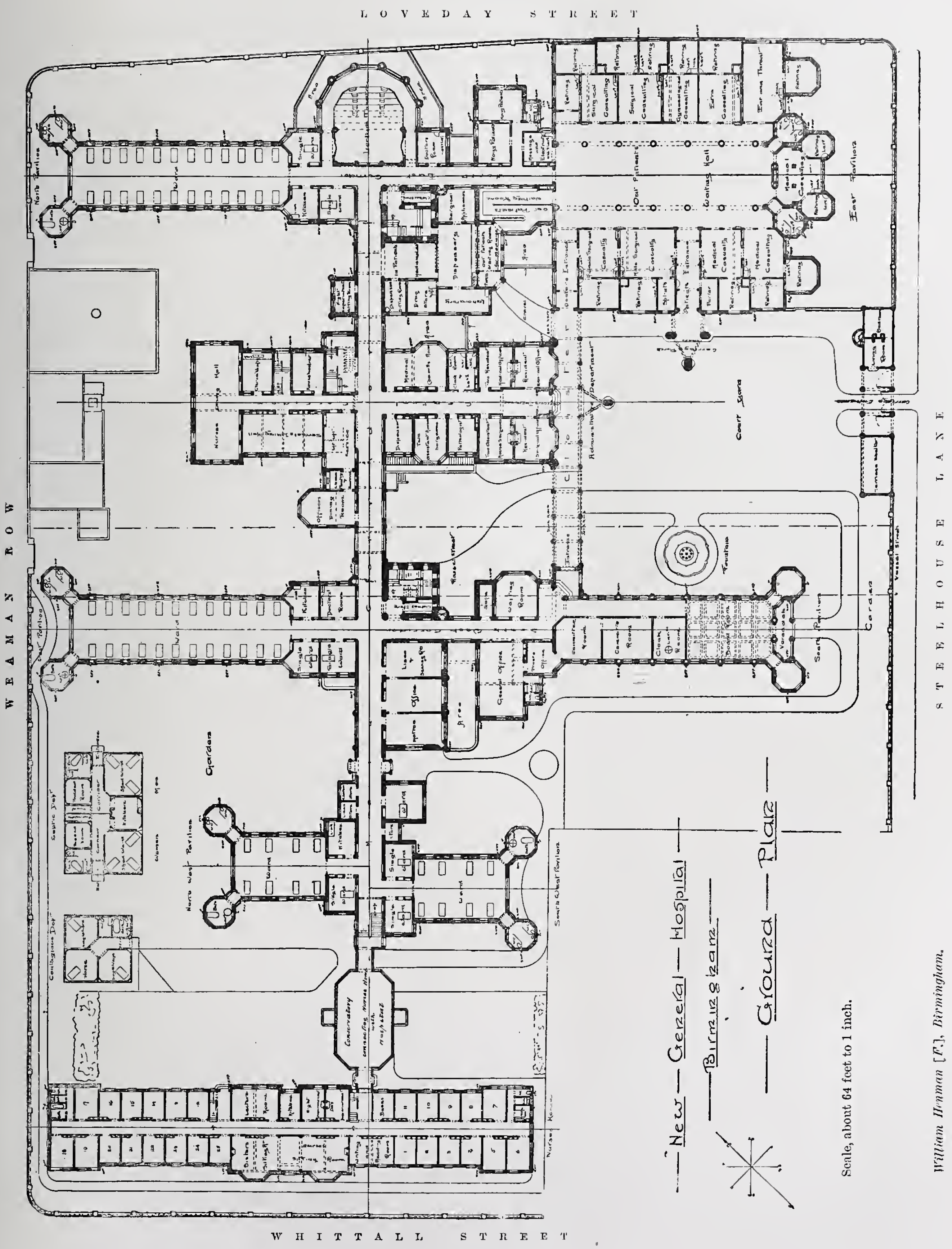
* Read before the Liverpool Architectural Society, 5th April 1897.

† Vol. I., 3rd series, p. 439.



Scale, about 64 feet to 1 inch.

William Henman [F.], Birmingham.



New General Hospital Birmingham Ground Plan

Scale, about 64 feet to 1 inch.

William Henman [F.], Birmingham.

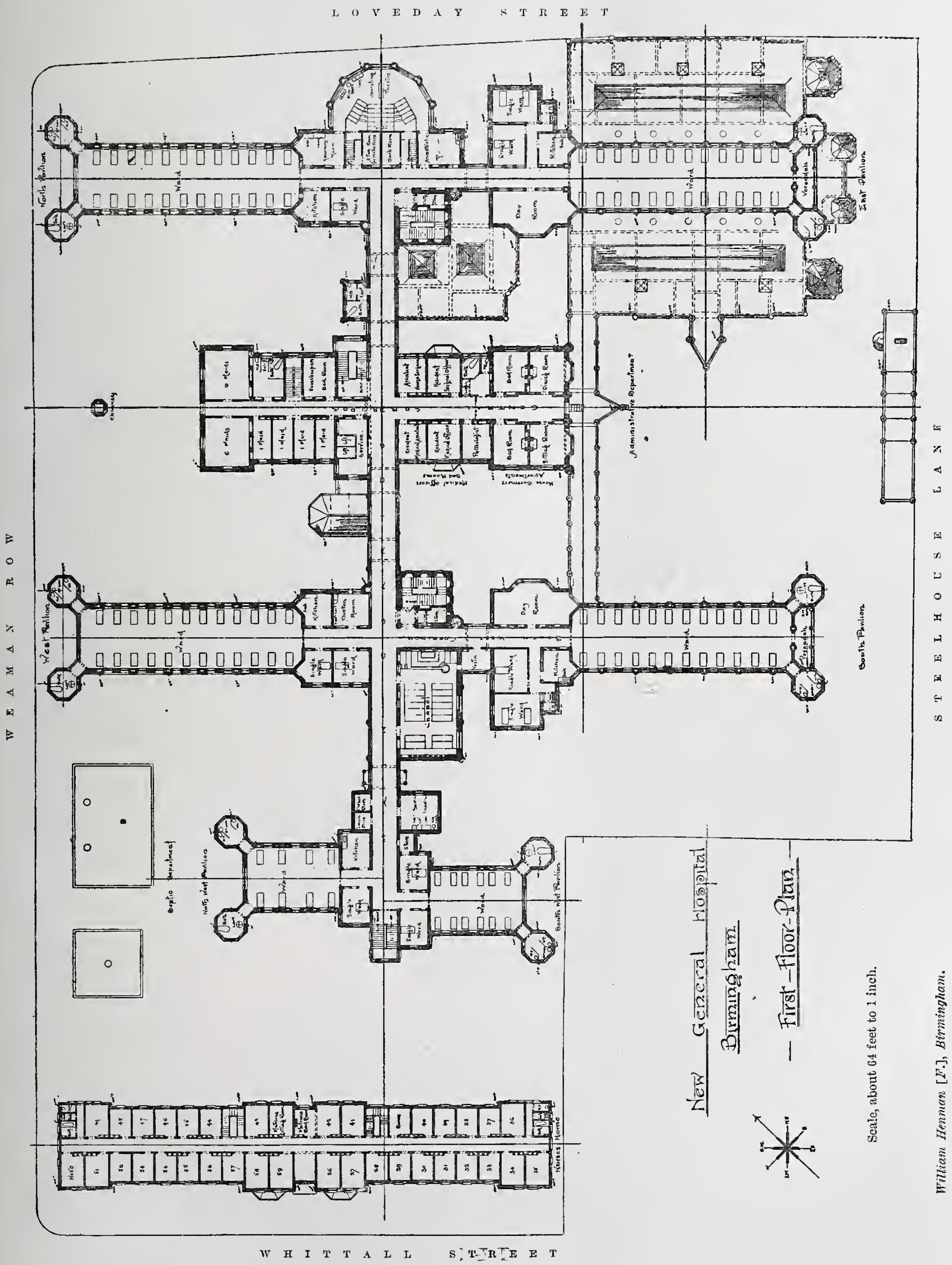
cussion wherever the question is raised of building or rebuilding such a hospital. I allude to the question whether it should be located near the centre or on the outskirts of the town. Any one fully acquainted with hospital work will have no difficulty in determining the question aright. Fortunately a proper decision has in almost every instance been arrived at, and a central in preference to a suburban site secured. If the only consideration were the welfare of the patients and staff located within the buildings derivable from their situation in a country district, the reverse would doubtless have taken place, and hospitals would more generally have been erected away from populous localities, as are convalescent homes, institutions for the care of those afflicted with chronic and incurable diseases, idiot and lunatic asylums, and in recent years hospitals for the special treatment of infectious diseases. A large general hospital, however, not only draws its patients from every quarter of the town, but accidents which require prompt treatment are of frequent occurrence, and demand a central position—at least in the locality the institution is intended to serve. In addition, moreover, there are the honorary medical and surgical staff, who are worthy of consideration, for it is unreasonable to suppose that the services of able men, whose time is often most valuable, can be secured for a hospital situate at a distance.

Another important factor, too often overlooked, is the utility of hospitals as training centres for the medical and surgical faculties. In important educational localities this last consideration not only dictates the position of buildings, but in several particulars influences their plan; for, in addition to lecture theatres and general accommodation for professors and students, space about the beds in wards must be increased, the pathological department extended, a museum and other buildings added.

It has been suggested to me by Mr. Culshaw that I might by the aid of the drawings which have been prepared for the works at the New General Hospital, Birmingham, give a description of the doings there, which may interest you, and I propose to follow his suggestion, because it will enable me to refer to matters connected with it which have particularly attracted my attention.

The site is a parallelogram, 506 feet long by 385 feet deep, entirely surrounded by roads; but for the present at least a portion at the southern angle, 179 feet by 151 feet, has not been acquired. We had, then, an L-shaped piece of land to deal with, of about 3¾ acres in extent, having a frontage of 348 feet towards Steelhouse Lane, which I selected for the principal entrance, marked by a covered gateway of three arches—the centre for carriages, the side ones for foot-passengers. On the right hand is the porter's lodge; on the left a shelter for carriages of doctors and visitors. Passing through the gateway we find a large open quadrangle. Immediately in front is the administrative block, with a central entrance protected by a triangular carriage-porch the outer pier of which bears a group of three figures in terra-cotta, modelled by Mr. J. Wenlock-Rollins, sculptor, of Chelsea. They represent the Art of Medicine and Science of Surgery holding high the lamp of life, their arms being supported by Philanthropy, trampling underfoot the serpent of Death. The front portion of the administrative department provides for the resident medical and surgical staff, medical committee-room, and house governor's apartments; and in the rear portion, the dining-rooms for staff, nurses, and servants, and for servants' sleeping-rooms, the top floor throughout being occupied by the kitchen department, and the basement devoted to stores, &c. On the right-hand side is the outpatients' department, consisting of a large waiting-hall surrounded by casualty-, consulting-, and retiring-rooms, a smaller waiting-room adjoining the dispensary. A second triangular porch marks the entrance to the out-patients' department. On each of the three detached piers are single figures in terra-cotta, modelled by Mr. Rollins: they represent Light, Air, and Purity—three essentials to health.

On the first and second floors are large wards with accessories, the whole forming what we know as the east pavilion. At the opposite side of the quadrangle is the south pavilion, connected with the east by an open cloister. On the ground floor are the board- and committee-rooms, general offices, and visitors' waiting-room, with large wards, &c., above on the first and second floors. The north and the west pavilions, each of three storeys of wards, are to the rear of a main corridor running nearly the whole length of the site, at the north-east end of which is a large lecture theatre with the principal operating-room above. Towards the south-west end are two small pavilions of three floors for burn cases, children, gynæcological, and special surgical patients; also two smaller operating-rooms. Opening out of this end of the main corridor is a conservatory, forming a covered enclosed connection with the nurses' home, which otherwise is a detached building containing over one hundred separate bedrooms, in addition to sitting-, writing-, and lecture-rooms. In the centre of the principal elevation are three panels in terra-cotta, modelled by Mr. W. Neatby, illustrating Perseverance, Patience, and Prudence—essential attributes to successful nursing. Behind the main buildings are absolutely detached buildings, the smallest being for infectious cases which develop in the institution; the one near by is for septic patients; that towards the north is the pathological department, and the remaining one is the boiler-house and a small laundry.



New General Hospital
Birmingham
— First-Floor-Plan —

Scale, about 64 feet to 1 inch.

William Henman [*F.*], *Birmingham.*

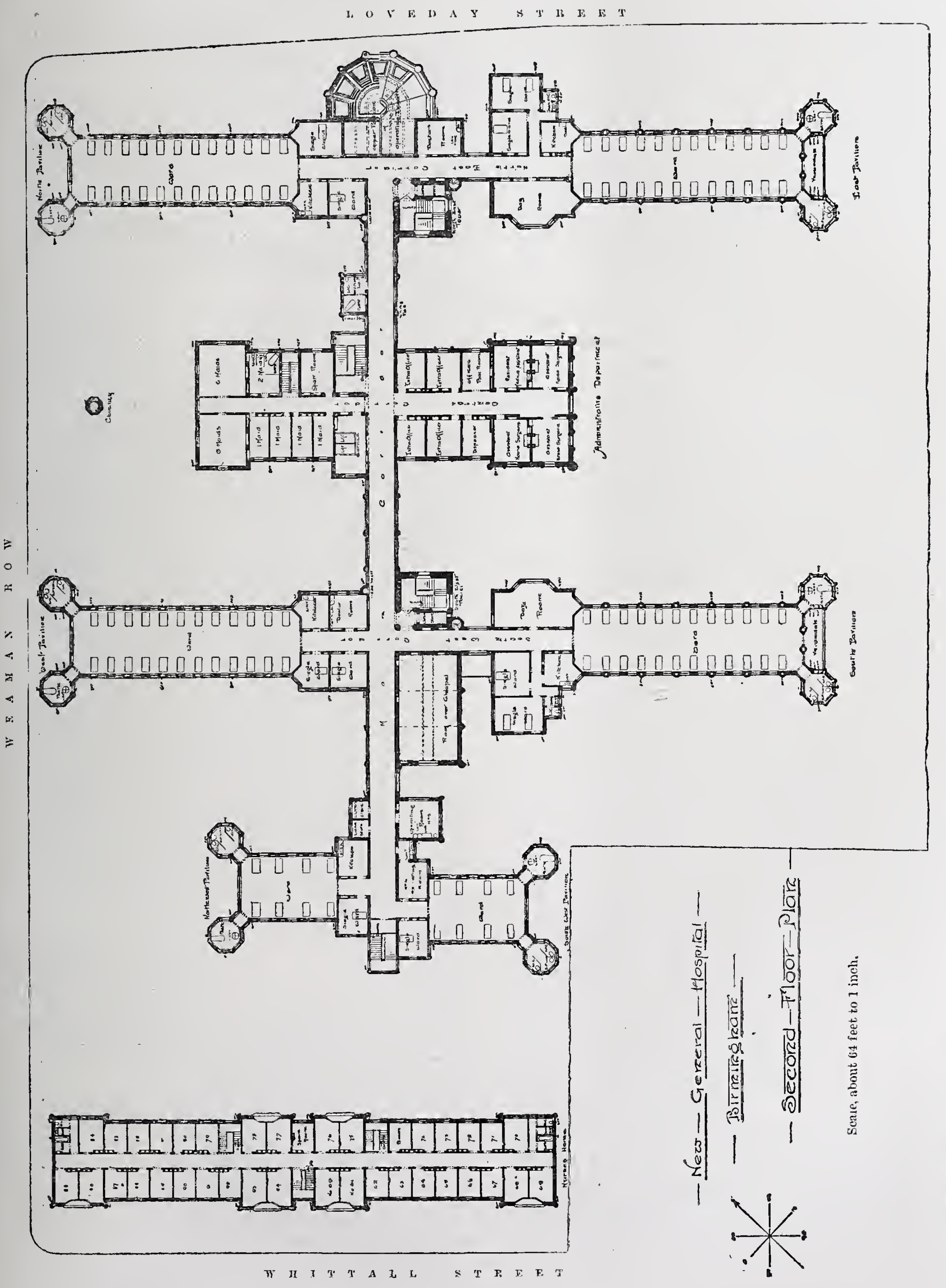
Having given you a general idea of the arrangement of plan, I will now endeavour to explain some of the precautions which have been taken with a view to securing what have already been mentioned as the chief essentials to be aimed at in hospital design—viz. light and pure air, together with convenience of supervision and administration. To commence with the latter requirements, it will be noticed that the administrative and service departments are centrally placed. Two hydraulic lifts are here provided, from the basement to the top (kitchen) floor. They are intended to be used for the conveyance of passenger-patients in wheeled chairs or beds, food-trolleys, provisions, &c.; and, as there is an entire absence of steps on each floor level, conveyance from one portion of the building to another is facilitated. The corridors are no longer than are necessary to divide the pavilions in order to secure suitable lighting. The arrangement of the buildings in long and short blocks prevents overshadowing. The axis of the wards is south-east and south-west, so that those in the rear as well as in front of the main corridor receive a due share of actual sunlight. In all the large wards are windows on each side, as well as at one end. Fresh air around the buildings, or, more correctly speaking, the absence of stagnation, is secured by piercing the corridors at intervals, a second ceiling being inserted, and the sides glazed; so that the corridors are quite enclosed, and yet circulation of air from one side to the other can freely take place.

Within the buildings provision is made to secure pure air and constant change throughout by mechanical means on the plenum system of ventilation. In the basement at four selected points, as free as can be from risk of contamination, air is drawn in through moistened screens, by which it is cleansed of suspended impurities, and brought to a state of humidity suited to the temperature of the interior of the buildings. It is then, in cold weather, tempered by passing over large batteries of steam tubes, and propelled by rotary fans turned by electric motors along ducts of large sectional area to the separate flues leading up to the several wards, rooms, and corridors. At the base of each flue are additional steam-coils with regulating valves, so that the temperature and air-supply to each apartment may be adjusted to requirements. Power is being provided, so that change of air throughout the buildings may be secured from seven to ten times per hour at a uniform temperature of between 60° and 62°, with the option of raising the temperature of certain rooms up to as much as 70° when necessary. This frequent and continuous change of air going on night and day will take place without perceptible draught. There will be no opening of windows, no open fires (except in the doctors', house governor's, matron's, and nurses' sitting-rooms), and in no habitable portion of the buildings will there be a single steam or hot-water pipe. Of course, suitable exit flues and ducts are provided for the expelled air, which is conveyed to turrets protected by flaps and louvres, so that the air may escape into the open uninfluenced by movement of the outer atmosphere. Water-pipes, with connections for hose at intervals, are fixed throughout the air-ducts, all ducts and flues being arranged so as to be easily accessible for inspection and cleansing.

All the ventilating and heating arrangements, as well as the hot-water supply for baths, lavatories, sinks, &c., have been engineered by Mr. William Key, of Glasgow; and it may be interesting to you to know that he is to be entrusted with the ventilation and heating of the technical school about to be erected in Liverpool from the designs of Mr. E. W. Mountford. I would strongly advise every one present to watch the progress of that work, and when it is completed to observe carefully the beneficial effects of a scientifically devised method of ventilation by mechanical means compared with the ordinary haphazard appliances too often employed in such buildings.

But to return to our hospital. In addition to the definite provision for a continuous supply of fresh pure air throughout the buildings, care has been exercised to keep all air expelled from the sanitary conveniences quite distinct from the outlet ducts appertaining to the wards and other apartments. This is a precaution which in practice might be unnecessary, because the continual outward pressure of the air within the buildings ought to prevent any return whatever from other sources; but movements of air and influences affecting them are so subtle that I considered it best to err on the safe side, and leave no shadow of doubt as to the chance of contamination from known impure sources. Another precaution which has been taken has reference to the water supply throughout the institution. Open cisterns, both for hot and cold water, are avoided. In the upper portion of the two large towers, situate between the north and east and the south and west pavilions, are large circular steel cisterns to which water will be laid on from the corporation mains, although it is expected to draw our chief supply from an artesian well now being sunk near the boiler-house, whence water will be pumped up to the tower cisterns from which it will be laid on direct to all part of the buildings, and to the several hot-water services without the intervention of any open cisterns, which too often are placed in the upper portions of turrets containing sanitary conveniences.

One word with regard to the steam heaters employed for hot-water supply. Some sixteen years ago, I was erecting the West Bromwich Union Infirmary, and had specified copper cylinders



Scale, about 64 feet to 1 inch.

William Henman [*F.*], *Birmingham.*

with steam coils as heaters, but fortunately required that one should be first constructed and tested in my presence. The steam coil was an ordinary spiral pipe, such as may still be seen illustrated in trade catalogues. In testing the cylinder so constructed it was found that, although the upper portion of the water therein became quickly heated when steam was turned on, it took three-quarters of an hour ere the bottom portion even became warm. This did not commend itself to me, so I set to work to think out the reason of the unsatisfactory result and to find a remedy. The remedy was to reduce the length of steam coil and arrange it in the form of a cone, instead of a simple spiral; and the result was that the same volume of water could within twelve minutes be raised throughout to almost boiling point. The reasons for such an improved result are obvious. In each case steam enters at the top of the coil, so that the condensed water may easily escape by gravitation. With the plain spiral the steam has to traverse a considerable length of pipe in the upper portion of cold water, which latter takes up the heat, and, being then of less specific gravity than that below, retains its position at the top of the cylinder; consequently it is only by slow degrees that the water below becomes heated. But with the conical spiral the steam is quickly conveyed to the lower and larger rings of the coil, and immediately a rapid circulation of water in the cylinder is set up. It is most surprising what large volumes of hot water can be secured with small heaters thus constructed. We shall have a number of these heaters placed in the basement, with a flow pipe taken up to an expansion cylinder placed in the roof, provided with a return pipe and an automatic air valve; every draw-off will be directly from the circulating pipe, so that hot water may be immediately obtained. All the piping is kept clear of the walls, and passes through tubes in the floors filled with asbestos, so as to be easily withdrawn if necessary for repairs.

Equal in importance to a pure and continuous supply of fresh air from the outside is that there shall be no inaccessible spaces within the buildings where air may stagnate or become contaminated. The neglect of precautions to avoid such is, I believe, one of the chief reasons why many buildings, including hospitals, acquire a reputation for being unhealthy.

However pure may be the supply of air from the outside to a building, it will soon become fouled by accumulations of organic matter within—spaces under floors and between floors and ceilings, behind skirtings, in boxings of window-sash frames, door casings, &c. Such accumulations may take place, and the only remedy is to make all solid. Contrary to ordinarily accepted ideas, I am having the ground filled in solidly below all the lower floors, using sand covered with a layer of concrete. Intermediate floors are also absolutely solid, being formed of coke breeze and cement concrete on adamant and breeze blocks, supported by rolled steel joisting. This method of constructing solid fireproof flooring was adopted after careful experiment, and now after ample trial it is found to fulfil the expectation formed as to its appropriateness. The question involved was how to construct a floor of assured fire-resisting qualities, devoid of inaccessible air-spaces, which would not reverberate or convey sound unpleasantly. Solid cement concrete, supported by steel joisting, is very resonant, and therefore alone was inadmissible; so I utilised the known fact that materials of different densities in juxtaposition more or less neutralise sound waves.

The adamant blocks are of a spongy nature, and emit only a dead sound when struck, whereas cement concrete, even when coke breeze is employed for the aggregate, is distinctly resonant on percussion. These blocks are placed between the steel joists, their ends, which are rebated, resting upon the lower flanges, so that the underside of the blocks is below the steel joisting. They form a ridge-and-furrow support for the breeze concrete, which is filled in to rather more than the depth of the steel joists. Terrazzo paving is thereon laid to all corridors, operating-rooms, kitchens, and the like; and to the wards, teak boarding of special tongued and grooved section, edge nailed direct into the breeze concrete, a bituminous bed alone intervening, so that again materials of varying density are placed together. Although I do not pretend to say that considerable noise will not penetrate such flooring, there is undoubtedly an absence of echo and sound reverberation which are so objectionable in hospital wards where solid concrete has been employed. Flat roofs have been extensively employed, constructed in a similar manner to the intermediate floors with the adamant girder blocks and concrete laid with asphalte. The special use of the adamant blocks in the construction of such roofs is to prevent condensation on the underside, the materials of which they are made being excellent non-conductors of heat.

I have always condemned the employment of *wood-block* flooring in hospital wards. Doubtless there are now several devices whereby the blocks may be firmly secured in position; but I see no reason for cutting good boarding into short lengths, and thereby exposing numerous cross-grain joints, because it is at such joints that moisture and impurities will be most readily absorbed.

For some time I was unable to get a contractor to take the responsibility of laying down boarding in the manner I have just described, but have now succeeded in getting it done, and the result appears to be perfectly satisfactory.

All angles are rounded off throughout the buildings at junction of walls with ceilings and floors, as well as to all internal and external angles of walls and around the window and door openings. Wherever practicable, architraves are omitted. Skirtings are of glazed tiles. Chair and picture rails are absent. In fact, the endeavour has been to avoid projections which might give lodgment for dust or dirt. This restraint certainly tends to a somewhat bald effect internally, because it prevents the employment of recognised architectural features; nevertheless, to those who carefully study the true uses and requirements of hospital buildings such simplicity of treatment within is sure to commend itself. Adamant plaster has throughout been employed on the walls, a dado 4 ft. 6 in. high being enamel painted with distemper above.

I am glad of this opportunity for directing attention to a question respecting which I have for some time been making observations, viz. whether the prejudice, which undoubtedly is very general, in favour of hard and compressed materials for walls and wall surfaces is warranted by facts. In the Liverpool Royal Infirmary you have a notable instance on a large scale of the employment of glazed brick and tile work throughout the interior.

Members of the Committee of the Birmingham General Hospital were kindly permitted to inspect that building, and were greatly impressed with its internal appearance, and I believe, if funds had been unlimited, I should have received definite instructions to go and do likewise. As it was, a strong expression of opinion in favour of the employment of glazed material within the building led me, against my own conviction, to specify it somewhat largely; but when estimates were received the cost was found to be in excess of the contemplated expenditure, so I at once attacked the glazed work and cut out several thousand pounds' worth. To justify this proceeding I placed before the committee the views I had then formed on the subject, which were accepted as reasonable; and since then continued observation has more than convinced me that glazed surfaces are generally a mistake within buildings, and particularly in hospitals. Exception may, however, be made in the case of dados to stairways, or wherever the walls might become disfigured by finger-markings, &c., in sanitary conveniences, or wherever splashing may take place. But in every case, for hospital work, I now give preference to glazed tile over glazed brickwork, because the jointing is closer and less liable to absorb deleterious matter.

Apart from exceptions such as I have named, what are the reasons for condemning hard and impervious materials for walls and wall-surfaces? Regarded from a hygienic standpoint, they do not retain heat, but either reflect or quickly convey it. Proof of this is, if you place your hand on metal, glass, or such like impervious substance, under ordinary conditions a sensation of cold is felt; but if you touch soft woods, woollen or other pervious substances, under similar conditions the sensation is quite different. Consequently, when buildings are erected of hard and impervious materials, they are normally cold, and convey a chilling effect to the atmosphere within. Such atmosphere in cold weather is usually maintained at a higher temperature than the air outside, and as a natural result is more highly saturated with moisture, and being cooled by coming in contact with the cold walls it deposits moisture on them. Paper and decoration on such walls will more quickly gather dirt and become deteriorated than when placed upon walls of less impervious materials.

It is true that a glazed inner service is not quickly damaged by deposited moisture, but it does quickly become dirty—more dirty, in fact, as a rule than unglazed materials similarly placed. This may be proved by passing the hand over a glazed and unglazed wall-surface similarly exposed and untouched for an equal time. Glazed surfaces can be cleaned down with less risk of damage; but where the surfaces are extensive the labour is considerable, and as a matter of fact, because of their fictitious appearance of cleanliness, the process is far less frequently carried out than it should be. Apart from the chilling effect which glazed materials have when extensively employed, I consider that the principal objection to their use in hospital wards is that moisture does condense on them. Such moisture, in addition to water, carries with it animal matter, perhaps of a deleterious nature, resulting from the respiration and exhalations of patients and others occupying the wards.

In a building such as the Liverpool Royal Infirmary, where no mechanical means are employed to secure uniform and continuous ventilation, it will be found that at night-time when it is cold outside, windows and doors being closed, considerable condensation will take place on the glazed surfaces. I have myself seen it trickle down and become partially absorbed at the joints. Then, if the day be bright and warm, windows are opened, the moisture on the walls dries up; but there is left behind a film of dirt, doubtless charged with animal matter, and perhaps with germs of incipient disease, in time to become detached, and, if falling upon congenial soil, to develop fresh complications among the suffering who go to hospitals for relief.

In considering the alternative let us assume that the walls of a ward are throughout constructed and faced with materials of a pervious nature, which naturally absorb and retain heat. Condensation will not readily take place thereon; so that by frequent change of air moisture resulting from respiration, exhalation, or other causes, together with its impurities, is quickly conveyed to the open, where nature provides for its purification. Under such conditions it is evident that liability to contagion should be less than with walls of hard and impervious materials.

Glazed windows are essential for the admission of light, and it is well known that surfaces of glass will in cold weather condense moisture; but fortunately windows are frequently cleaned, and, if of thick glass or double glazed, risk from that source is not great. Speaking of glazing, a sheet of glass becomes dirty outside much more quickly than the woodwork, or even brick or stone, which surrounds it. That is the effect of condensation. Moisture in the atmosphere, particularly in large towns, carries with it particles of dirt, which are deposited with the moisture, while other suspended particles are retained by coming in contact with the moistened surface. I have noticed that windows of unoccupied houses and shops accumulate dirt more quickly than when occupied; probably because of the lack of artificial heat within the glass remains colder than it otherwise would, and condensation thereon takes place more rapidly. Polished granites and marbles, where not actually exposed to the cleansing effect of rain or periodically cleaned, become quickly coated with dirt. The observation of these natural phenomena, which are constantly going on around, leads me to believe that, for the sake of health and comfort, dwellings of every description should, as far as practicable, be constructed of pervious rather than of impervious materials.

There is another view of the subject with which I have been greatly impressed, and that is the effect which materials used in the construction of buildings have upon ordinary ventilation. Wherever open fires are employed ventilation by extraction must take place. Heat evolved by the fire causes a continual flow of air up the flue, and to replace it other air must enter the apartment some way or other. Should the walls be thoroughly impervious, it must come in at definite openings specially provided for the purpose, or else through accidental chinks and crannies. Cold as it may be, it will, unless diverted by intervening objects, travel in direct lines to the fire, and produce unpleasant draughts, yet may not effect a thorough change of air throughout the apartment. With the surrounding walls of permeable materials, air will be drawn gradually through them over their whole surface. It will enter the apartment imperceptibly, and become tempered in its passage through the walls, which are continually absorbing heat from the fires we have presumed to be burning. Draughts are not felt, and yet the whole air of the apartment is continuously being changed, and, therefore, greater comfort to the occupants is secured. Moreover, in its passage through such walls the air becomes filtered, and although it may be feared that the substance of such walls might in time become contaminated, I believe that the continuous passage of air, except there be decidedly impure sources around the building, will maintain them in a pure state by the ordinary process of oxidation.

Before leaving this subject I may mention that it has occurred to me as probable that London, which for its size and density of population may be considered a healthy city, owes its reputation in this respect partly to the pervious nature of the stock bricks so largely employed for building purposes throughout the metropolis. While advocating the use of permeable materials, even for external walling, I do not overlook the fact that care must be taken to prevent such walls becoming saturated with wet. An efficient anti-damp course is essential, and in positions exposed to driving rains they should be protected by tile-hanging, or some such means, which will not entirely close the pores. It is remarkable how effectually well-burnt, yet highly porous, bricks will exclude wet so long as air has free play around a building. In fact, I do not hesitate to express my belief that buildings erected with such are, as a rule, drier, and certainly more comfortable to live in, than those constructed with hard, impervious materials. I place these views before you, not in any dogmatic manner as absolutely ascertained facts, but rather to stimulate observation, because I am fully aware that they are contrary to popular prejudice; but if more extended observation and experiment should establish them as facts, then the days of highly pressed bricks will be numbered. Artistically considered, few will mourn their loss.

You will have noticed that I particularly limited permeability of walls to buildings in which ordinary means of ventilation are employed. With the plenum system of ventilation, which can be brought about only by mechanical means, the air within a building is always under a slight pressure, and has a tendency to escape wherever exit can be found. To allow it to get away through the walls would cause irregular action within, because of the varying amount of outer wall-surface in different apartments, and impurities generated within the building might in time contaminate the substance of the walls. Nevertheless, the walls may with advantage be constructed of pervious materials with an impervious coating on the inner surface. Heat will then be retained in the body of the walling, and prevent condensation within.

We look to hospitals as types of what sanitary construction should be, therefore all questions relating to the suitability of building materials have a bearing upon our subject.

With regard to the future of hospital planning, I must direct your attention to correspondence which appeared in *The Builder*. F.R.C.S., in the issue of 2nd June 1896 advocated the abandonment of the single-ward pavilion in favour of double wards, which he considered were now practicable with the employment of the antiseptic treatment and the plenum system of ventilation. This was supported by "Architect" in the issue for the 8th August 1896, and the following week William A. Pite [*F.*] gave his views, and my opinion on the subject was published as follows:

> Although the time may be at hand when it will be possible, by the employment of scientifically applied means of ventilation and of the antiseptic treatment, to adopt an arrangement of plan differing from single-ward pavilions, the question demands closer examination than "F.R.C.S." and "Architect" appear to have devoted to it, for fear of a retrograde movement.
>
> The point upon which they place so much stress—viz. architectural effect—is of slight importance to the welfare of patients and of ease in administration, which in a hospital ought to receive first consideration, and other reasons given for reverting to double-ward pavilions are trivial. In fact, I venture to say that by far the majority of those who have had practical experience in hospital work will condemn the dwarf central division, because it obstructs a full view of the beds, and because it is not possible to so thoroughly light a wide ward; for it must be remembered that, although in a single ward a patient now and then may be inconvenienced by glare of light, that light is, in effect, the great health-giver to by far the majority. Ventilation, by whatever means secured, becomes more difficult in a large area, and a central division must retard free circulation of air; moreover, such enlarged spaces would demand greater height, which would further increase the difficulty of securing efficient ventilation, and add to cost as well as to labour in getting from one floor to another.
>
> The real disadvantage of the pavilion plan, particularly in some of the large and recently erected hospitals, is that of administration, in consequence of the great distances which have to be traversed by the staff; the direction, therefore, in which advance should be sought is concentration of wards, which becomes possible with an efficient system of ventilation and the employment of antiseptics.
>
> Hospitals and infirmaries may be considered "health manufactories," and the arrangement of plan should, as in an ordinary manufactory, principally be considered with a view to perfection of work and its accomplishment with ease and despatch.
>
> What I would suggest is that instead of erecting detached pavilions of several storeys, it might be better to spread out the wards on one storey only, placed side by side and lighted by continuous lantern lights. Such an arrangement would secure greater comfort to the patients, simplify ventilation by mechanical means, and very considerably reduce corridor communication, as well as dispense with the inconvenience of staircases and lifts, thereby facilitating administration.
>
> For the accommodation of the staff there would be no objection to buildings of several storeys, but with all the patients compactly arranged on one floor level their wants could be easily supplied, and other difficulties of the pavilion plan would be overcome.
>
> I am fully aware that only those who study what is possible with the plenum system of ventilation properly applied can realise the practicability of such an arrangement; yet by its employment I feel convinced that some such revolution in hospital planning will be accomplished, and do not doubt that in time it will be demanded, partly in consequence of the great cost of the pavilion plan, but more particularly in consequence of the excessive labour thereby involved.

Further observation has strengthened my faith in the suggestion then made, and I submit it with confidence for your consideration.

MINUTES. XIII.

At the Sixty-third Annual General Meeting (the Thirteenth General Meeting of the Session) held Monday, 3rd May 1897, at 8 p.m., Professor Aitchison, A.R.A., *President*, in the Chair, the Minutes of the Meeting held 12th April 1897 [p. 316] were taken as read and signed as correct.

The Hon. Secretary announced the decease of Arthur Baker, *Fellow*, and Charles Alfred Chastel de Boinville, *Associate*.

The Hon. Secretary also announced the decease of Mr. Henry Markby, the Institute solicitor, and stated that the Council had authorised the Secretaries sending a letter of condolence to his partners.

The Hon. Secretary announced that Mr. Charles G. Maylard, of 59, Cleveland Square, Hyde Park, had been reinstated an Associate in compliance with By-law 20.

The Report of the Council for the official year 1896–97, a copy of which had been issued previously to every member resident in the United Kingdom, having been submitted and taken as read, the Chairman formally moved its adoption, which was seconded by Mr. Aston Webb, F.S.A., *Vice-President*. The same having been discussed [see p. 326], the report of the Auditors was read as follows:—

To the Royal Institute of British Architects.

Gentlemen,—As Honorary Auditors for 1896–97 we have examined the accounts for the year January–December 1896, and certify that they are correct.

We are pleased to be able to report a surplus on the year's working of £591. 2*s.* 2*d.*, as against an estimated surplus of £85. This is the first year since 1892 that has shown a surplus, and a detailed examination of the accounts shows that a careful control has been exercised over the smaller items of expenditure.

The following points seem to us worthy of special attention:—

The cost of the production and issue of the Journal, after deducting all receipts from advertisements and sales, amounted to £672. 10*s.* 6*d.*, of which amount £68. 0*s.* 8*d.* was incurred in the shorthand reports of the discussions at the Ordinary Meetings.

The solicitor's charges in connection with the unsuccessful action to restrain the Architectural Union Company from letting the lower galleries at Conduit Street amounted to £128. 16*s.* 6*d.*, in addition to the amounts paid in 1895.

We have invited the attention of the Council to some minor matters in connection with the authorisation of the accounts, and to the charge for collecting country cheques by the Institute bankers.

We desire to cordially thank the Acting Secretary and other officials of the Institute for their assistance in our examination of the accounts.—Yours faithfully,

Edmund Woodthorpe, } *Hon.*
9th April 1897. Owen Fleming, } *Auditors.*

Whereupon it was

Resolved, *nem. con.*, that the Report of the Council for the official year 1896–97 be approved and adopted.

In connection with the Jubilee celebration, on the motion of Mr. Delissa Joseph [*F.*], seconded by Mr. H. Heathcote Statham [*F.*], it was

> Resolved, that it be recommended to the Council to consider the advisability of holding an exhibition, or issuing a publication dealing with the progress of architecture during the sixty years of the Queen's reign, and report thereon to the General Body.

The lists of attendances of members at the several meetings of the Council and Standing Committees during the official year having been submitted and taken as read [see *Supplement* No. 13], the following members were appointed scrutineers to direct the election of the Council and Standing Committees for the ensuing year of office, and report the result thereof to the Business General Meeting of the 14th June—namely, *Fellows*: Frederick Todd, R. F. Chisholm, Zeph King, and five other Fellows to be appointed by the Council; *Associates*: E. R. Barrow, Francis Hooper, R. Shekleton Balfour, S. W. Cranfield, H. H. Langston, and H. Vaughan Lanchester.

Messrs. Edmund Woodthorpe [*F.*] and Owen Fleming [*A.*], to whom a vote of thanks was accorded for their services as Auditors, were again nominated to that office for the ensuing year.

The Statutory Board of Examiners were re-appointed as follows:—Messrs. Lewis Angell, Francis Chambers, George Elkington, Professor Banister Fletcher, Ebenezer Gregg, F. W. H. Hunt, E. B. I'Anson, Professor Kerr, J. Douglass Mathews, Lacy W. Ridge, Professor T. Roger Smith, Messrs. Benj. Tabberer and T. H. Watson.

In connection with the Statutory Examinations the Chairman announced that an examination had been held on 29th and 30th April; that only one candidate attended, and he failed to pass.

The President having introduced to the Meeting Mr. William J. Locke, B.A.Cantab., the newly appointed Secretary of the Institute, the proceedings closed, and the Meeting separated at 10 p.m.

LEGAL.

THE LONDON BUILDING ACT.

Building used partly for Trade and partly as Dwelling-house.

TYERMAN *v.* MARSLAND.

The case of *Tyerman* v. *Marsland*, decided on the 9th April by Mr. Denman, at Lambeth Police Court, was an appeal by Mr. Tyerman, a builder, against a notice of objection served upon him by Mr. Ellis Marsland, district surveyor, in connection with some alterations which the appellant was carrying out at the General Havelock, Parkstone Road, Peckham.

Mr. Passmore appeared for Mr. Tyerman, and Mr. Marsland conducted his own case.

The public-house in question is used partly for the purposes of trade and partly for the purposes of a dwelling-house, and the notice served by the district surveyor was based upon subsection 2 of section 74 of the London Building Act 1894, which provides that in every building exceeding ten squares in area used in part for purposes of trade and in part as a dwelling-house, the part used for the purposes of trade or manufacture shall be separated from the part used as a dwelling-house by walls and floors constructed of fire-resisting materials, and that all passages, staircases, and other means of approach to the part used as a dwelling-house shall be constructed throughout of fire-resisting materials.

Mr. Marsland relied upon sections 207 and 209 of the Act as connecting the building with section 74. Section 207 provides that it shall not be lawful to make any alteration of any building in such manner that when so altered it will, by reason of such alteration, not be in conformity with the provisions of the Act applicable to new buildings. Section 209 provides "that every addition to or alteration of a building, and any other work made or done for any purpose in, to, or upon a building (except that of necessary repair not affecting the construction of any external or party-wall), shall, so far as regards such addition or alteration or other work, be subject to the provisions of this Act, and of by-laws thereunder relating to new buildings."

Mr. Passmore argued that the words "by reason of such alteration" in section 207 entirely exempted the building in question from the provisions of section 74, subsection 2. He took it that section 207 would apply to a case where the existing building had been less than ten squares in area, or where it had been used solely for the purposes of trade, or solely for the purposes of a dwelling-house, and was to be altered into a house which was to be used jointly for the purpose of trade and as a dwelling-house, but in this case neither of such alterations was being made. Practically the only alteration which was being made was a direct advantage. A dangerous staircase was to be removed, and a staircase absolutely inclosed with fire-resisting bricks substituted. This was a question of great moment to builders and architects in London, and he thought he was safe in saying that Mr. Marsland was the only district surveyor who had had the temerity to require anything of this sort to be done. Mr. W. M. Brutton, the architect, was engaged in thirty or forty public-house alterations in the district of the County Council, and the question had never been suggested to him by any other of the district surveyors.

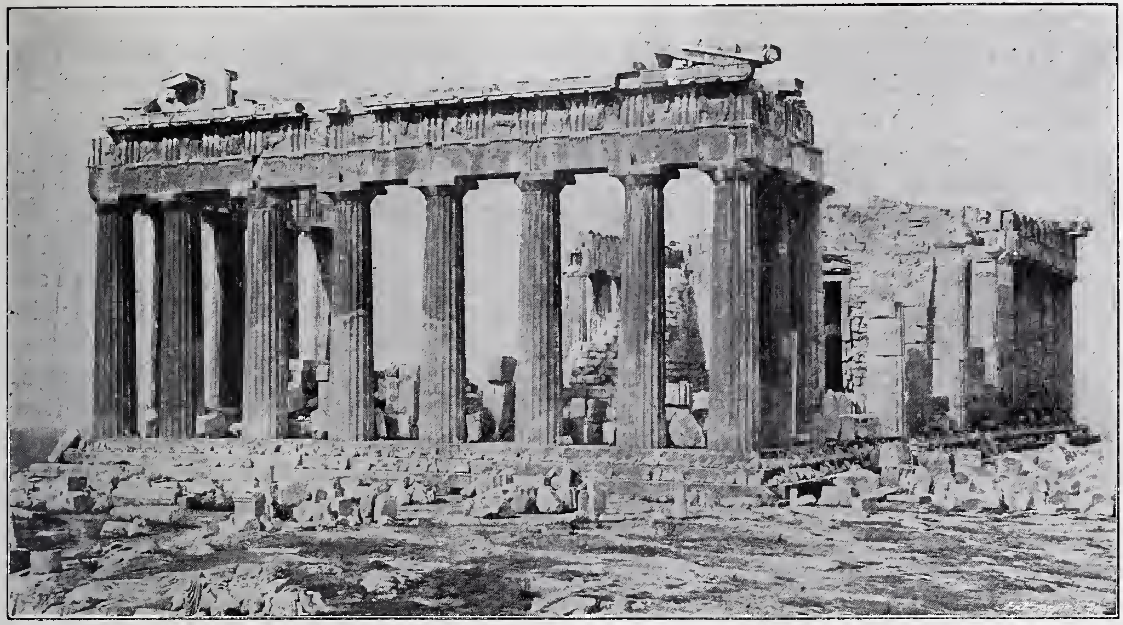
Mr. Denman, after consideration, held that the case was settled by the decision under the earlier Act in *Scott* v. *Legg*. The wording of the section of the Act of 1855 (18 & 19 Vict. c. 122, s. 27, subs. 3), on which that case was decided, was precisely the same as that in the present case, and he saw no reason for supposing that this Act was intended to apply to buildings which could not have been dealt with under the earlier Act. The district surveyor's notice was accordingly set aside.

The *Law Journal*, from which the foregoing report is taken, observes that it does not quite follow this decision, for *Scott* v. *Legg* was decided on section 28 of the Act of 1855, which corresponds to section 76 of the Act of 1894, and the greater part of section 74, subsection 2, which was under discussion, is new, and does not reproduce any part of the Act of 1855.

ALLIED SOCIETIES.

The Northern Architectural Association.

The Council of the Northern Architectural Association announce that the usual prizes (in books of the value stated below) will be given for drawings made during the summer of this year by Students and Associates (not in practice) under the age of twenty-five years. The Council will give a first prize of £2. 2*s.*, and a second of £1. 1*s.*, for the best set of measured drawings. Mr. Wm. Glover will give a first prize of £2. 2*s.*, and a second of £1. 1*s.*, for the best set of sketches. The sizes of sheets must not exceed 20 inches × 13 inches for sketches, and 30 inches × 22 inches for measured drawings, and not more than six sheets are to be sent in for each set. Sketches, whether in pencil, ink, or colour, must be submitted as finished on the spot, without being touched up afterwards, and should be of distinctly architectural subjects. Measured drawings must be in ink, and be accompanied by the rough sketches and notes made on the spot from which they are compiled, and should include all joints. Drawings must be sent in, under motto, to the Hon. Secretary, 13, Grey Street, Newcastle, not later than 11 a.m. on 20th November next.



THE PARTHENON, AND THE EARTHQUAKE OF 1894.

By F. C. PENROSE [*F.*], F.R.S.

Read at the General Meeting, Monday, 17th May 1897; and registered at Stationers' Hall as the property of the Royal Institute.

I HAVE undertaken to describe the result of an examination of the Parthenon which I made about a year ago, its aim being to advise the Greek Minister of Public Instruction, and the Archæological Society of Athens, as to certain repairs which were in contemplation in consequence of their attention having been particularly drawn to the matter by the effect produced upon the building by an earthquake which took place in the summer of 1894. Three international consulting architects—*i.e.* a French, a German, and a British member—were appointed to confer with a local committee, and I was chosen as one of the three. I think I cannot do better than very briefly mention the principal events which, in addition to the mere lapse of time, have brought the building to its present ruined and insecure condition.

The Parthenon, from the time of its completion, 438 B.C., until about the middle of the sixth century of our era, when, by an edict of the Emperor Justinian, it was converted into a church dedicated to Ἁγία Σοφία (the Heavenly Wisdom), served the purpose intended by its builder Pericles, viz. that it should be the great temple of the tutelary goddess of Attica. We must not, however, call Pericles the founder, for a temple of Minerva must have already existed on the same site for about a thousand years, when Pericles replaced by the existing structure its hexastyle predecessor, which had been ruined by the Persians.

When the temple was converted into the church, as above mentioned, no remarkable change needed to have been made as to the external appearance; but an apse was built at the east end which would seem to have required the removal of two columns of the Pronaos; but the Naos of the Pericleian temple must have been greatly altered at that time. The massive colonnades supporting the roof, similar to those of which we have existing evidence both at Pæstum and Ægina—at Pæstum standing, at Ægina lying on the ground—and of which the traces of the diameters of the lower order are still visible in the Parthenon (at least they were so a few years ago), and which measured about 3 feet 7 inches in diameter, were, at the time I speak of, replaced by others about 2 feet in diameter, which were standing when Messrs. Spon and Wheler visited Athens in 1675. The architraves carried by these more recent columns were formed out of the marble beams used in the earlier colonnades, which required to be shortened about 5 inches to suit the reduced columniation. Of this there are positive evidences on the pavement. Several of these beams exist, and exhibit the operation then performed upon them. It is possible that the Naos may have been injured by a fire, and that the original columns were too much calcined to be left standing; and also that the original beams could only be re-used by shortening their length, and by the reduction of the columniation as above mentioned. This adaptation was done with a certain amount of architectural feeling, and a Doric frieze, with triglyphs, and guttæ band below them, and a cornice to suit, making a regular entablature, was then formed to surmount these smaller columns. All the work of this entablature is very feeble, and exactly conformable to the date at which the temple was converted into the church. Both on the scanty remnants of the Pronaos, and the more extensive remains of the Posticum, of which we shall have occasion to speak more particularly later, there are evidences both of fire and repair. These repairs may have been done at this semi-Classical period. The state of the interior when Spon and Wheler saw it is thus described:—"There is a gallery with twenty-two small columns in the lower tier, and twenty-three in the upper." This exactly conforms to the evidence on the spot if we suppose that the central column of the lower tier at the west end had been omitted to make way for the door by which the church was then entered. Originally there had been no communication between the Naos and the Opisthodomus, although two small doorways had been pierced at some later period. Thus Messrs. Spon and Wheler must have seen the Parthenon unchanged in its external aspect, and internally in general conformity with its original structure, not much more than two hundred years ago. The year previous to Spon and Wheler's visit, whose written description, as published by Wheler, is most interesting, the Parthenon had been visited by the Marquis de Nointel, French Ambassador to Constantinople, who took with him an artist named Jacques Carrey, whose drawings, though very rough, are of very great value in all matters connected with the lost antiquities of Athens, and especially in the grouping of the sculptures of the Parthenon. These drawings are preserved in the National Library at Paris; but there are copies in the British Museum.

One of the vicissitudes which befell the Parthenon, but probably did not much affect the construction, was that from the year 1204 Greece was occupied by the Franks, who took possession of Constantinople during the Crusades; and although the Greek princes afterwards recovered Constantinople, the southern parts of Greece, including Attica, remained in the hands of the Franks until they were expelled in 1456 by the Turks. Thus, during about two centuries and a half, the Parthenon was ecclesiastically under the authority of the Pope instead of the Patriarch of Constantinople. The building itself was probably very much neglected, for it is recorded that in 1403 the roof of the Opisthodomus fell in. After the Turkish conquest a Mosque was built within the temple, but apparently without any great alteration of the church which had preceded it. Twelve years after the visit of Spon and Wheler the greatest calamity that ever happened to the Parthenon took place.

The account of what occurred is thus described by Col. Leake, chiefly drawn from Fanelli's contemporary history. In 1687 the Venetians under Francesco Morosini, afterwards Doge, made important conquests in the Morea, and determined to employ the autumn of that year in the reduction of Athens, then held by the Turks, who had retired into the citadel, that is, the Acropolis. On 27th September the besiegers began to make approaches towards the enemy's outworks, but proceeded with difficulty in consequence of the rocky nature of the ground. The fire meanwhile was continued from the mortars upon the citadel, the Parthenon being the most conspicuous object, and, as the latter occupied a large portion of the platform, it could not long escape injury; but this might have been comparatively unimportant had not the Turks unfortunately placed in the temple, together with their most valuable property, a large quantity of their ammunition for the defence of the citadel. Towards evening on the 28th a shell falling upon the centre of the building inflamed the gunpowder in the Eastern Chamber (that is, the Naos). The explosion overturned all that part of the cella, and threw down the adjoining lateral columns of the Peristyle, with all excepting one column of the Pronaos; but left a part of the Opisthodomus standing, as well as the two fronts, without even displacing more than two or three statues of the Pediments. The conflagration caused by the explosion extended to the houses of the citadel.

After this destruction Morosini took possession of the Acropolis; but only for a brief period, as he found it necessary the next spring to evacuate Attica, so that this terrible injury to the Parthenon was quite gratuitous. The disaster it suffered at the hands of Morosini, however, was not quite complete. He began the removal of some of the statues from the west front, thinking that the car of victory (as he supposed it to be), with its horses of natural size and admirable workmanship, would be a fine accompaniment to his triumphal entry into Venice, and a noble monument of his conquest of Athens; or, according to the more candid expression of the historian Fanelli, "of his voluntary abandonment of the Attic conquest." By the awkwardness, however, of the Venetian engineers, the whole group was thrown down in the act of lowering it, and, according to the testimony of an eye-witness, broken to atoms.

On Morosini's departure the Turks returned to the citadel and restored their Mosque as it appeared when Stuart saw it in 1762.

Lord Elgin's removal of the sculptures, at the beginning of this century, was happily unattended with the mishap which befell Morosini's attempt, and the priceless sculptures he obtained are safe in the British Museum. From time to time the question arises whether he was justified in removing them. The justification which ought, I think, to have most weight is this—namely, that in the war of independence in 1826–1827 the Acropolis was twice bombarded, once by the Greek forces and once by the Turks, and the scars produced by the shells and cannon-shot on those occasions over all the building (except on the north side), and more particularly on the west front, are very grievous, showing the danger the sculptures escaped through Lord Elgin's action. Even now we may feel disposed to think that they are safer where they are than if they still remained on the temple. In one particular, Lord Elgin's agents did a distinct and, I think, an unwarrantable injury to the building—though probably in excess of his Lordship's instructions. On the south side of the temple the explosion had left eleven of the original seventeen columns standing, with their entablatures complete. From the greater part of these entablatures the agents referred to threw down to the ground the cornices, that they might, with the greater ease, withdraw the metopes, thus not only disfiguring the temple, but leaving the rest of the entablatures much more liable to injury from wet, especially as the iron cramps and dowels, which are everywhere largely used in the construction, became exposed and liable to rust and to shatter the marble.

This action of the iron is going on more or less throughout the temple, not so rapidly as would be the case in our climate, but it has done mischief in various places; some I shall have occasion to point out further on. One of these injuries, a very obvious and old-standing one, is common to most buildings of the Classical period, and particularly so at Athens—namely, the havoc that has been made in the Dark Ages by persons hacking away the stonework in search for the metals, iron and lead, which were embedded. The better protection of the ironwork is one of the points which is very much called for in anything that is done for the preservation of the temple.

Another cause that has to be mentioned has been in operation from time to time for more than 2,300 years. I refer to earthquakes. Athens fortunately lies at a distance from the special lines of seismic action; but both the Parthenon and other buildings on the Acropolis show clearly, and particularly by the twisted drums of some of the columns, that the earthquake of 1894 was not an exceptional one. Indeed, this last earthquake, as it did no very great damage to the fabric, has had the fortunate effect of directing attention to a number of serious weaknesses, which, if neglected, may lead to a great catastrophe; and it is very much to be hoped that the present political disturbances may not be allowed to hinder the execution of the precautions which had already been commenced and are urgently demanded. Almost the whole of the damage which is traceable to the earthquake of 1894 consisted in the fall of a piece out of one of the drums of a column on the north side, and that of a rather large portion of one of the architraves of the Posticum. Both pieces were probably already split and liable to be easily shaken down.

Another cause of mischief is the action of the roots of plants of various kinds which had been allowed to grow on the top of the temple, for the growth of which, soil is amply provided by the ravens frequenting the structure, and these roots, wherever they could enter into an open joint, must have tended to displace the masonry. Originally the joints were made so close that there could have been little danger from this source, but from the shaking by earthquakes and the explosion opportunities must occasionally have been given for the roots to enter. This cause of mischief has been pointed out to the Committee, and, whilst I was there, was being attended to; it is to be hoped that the matter will now be continually kept in view. Besides the physical injuries and mishaps which I have enumerated, about the year 1841 the Parthenon was in danger of what might be called a moral disaster at the hands of King Otho and his architect Von Klenze, who designed a large palace for the King to be built on the Acropolis. Happily he never even began it; but the bad effect, if it had been built, can be sufficiently well imagined. At that period, however, several of the fallen columns of the temple were re-erected—a most unfortunate proceeding, for the joints of the re-erected drums, with their jagged and bruised edges, form no sort of suitable accompaniment to the perfect lines of the original work, in which the joints are only made visible by occasional slight differences of colour in the adjoining stones.

In the year 1872 it appeared necessary to take down the central portion of the lintel over the western doorway, a stone which when perfect was nearly 30 feet long, and to support the superstructure by a constructed beam formed by a brick arch tied with iron bars at the bottom. The original lintel was doubtless in a very unsafe condition, having at some time suffered from the conflagrations I have referred to; but the way in which the repair had been effected was very unsightly, and as a considerable expenditure was being projected in the restoration of other parts, an opportunity seemed to offer itself for a better treatment of this western doorway, particularly as a great part of the expense would be necessarily provided by the contiguity of the general scaffolding required for the Posticum.

When I arrived at Athens in the spring of last year I found that both my colleagues—namely, Professor Dürm, of Carlsruhe, and M. Lucien Magne, of Paris—had already been there, and had given their reports to the Greek authorities. The former also published in Berlin in German an abstract of his report, a copy of which is in the Institute Library. He goes very fully—indeed, much more fully in some respects than the local committee were prepared to follow him—into the question of the defects and remedies; but the report is nevertheless a valuable contribution to the study of the subject. That of M. Magne is a brilliant and well-illustrated memoir on the construction and ornaments of the temple rather than a more technical report on the defects and remedies; but he calls attention to one very important detail, which seems to have escaped the notice of Herr Dürm, namely, the instability of the angles of the pediments, on which subject I shall have more to say later.

I was received very cordially by the local committee, presided over by M. Cavvadias, the Government Superintendent of Antiquities, and consisting of several Greek members of the Athens Archæological Society and some associated members, including Dr. Dörpfeld, the eminent German archæologist and architect, M. Troump, a resident French architect, and the Government engineer, M. Balános, who was to superintend the repairs. They had already made arrangements for several 14-foot architrave stones (that is, of the full size of the old imperfect ones) being prepared on Mount Pentelicus, and I joined them in an agreeable excursion to the quarries to inspect the fitness of these blocks in the rough.

The part of the temple which demanded the most immediate attention was the hexastyle portico of the Posticum [see plan, p. 354], and a scaffolding had been erected there, which enabled me to study conveniently the state of the superstructure in that part. Ladders were also erected for me in a few other places which could not be properly examined from below; especially for the purpose of dropping a plumb-line from the top to the bottom of some of the columns, which I had so treated just fifty years earlier, to see if any change had taken place. It was necessary to do this rather early in the mornings before the otherwise inevitable wind had arisen. I had by this means the satisfaction of being able to prove that no change in their relation to the perpendicular had taken place, nor, so far as I could reach them, had the old cracks enlarged. After studying the building in this manner for about three weeks I prepared my report, and before I left Athens I had the satisfaction of believing that the local committee had agreed to the whole of it, and that they all seemed to concur in the wish that, whilst what was essential should be done, everything should be executed in the most conservative manner, so that whatever new material had to be inserted, it should be kept out of sight as much as possible.

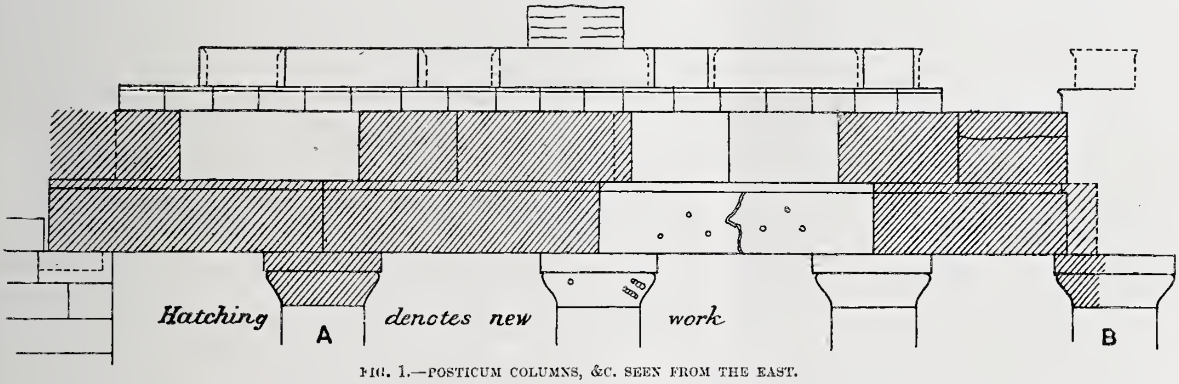


FIG. 1.—POSTICUM COLUMNS, &C. SEEN FROM THE EAST.

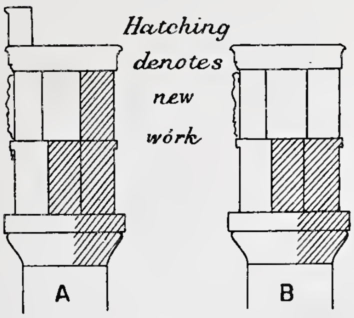


FIG. 2.

The state of the Posticum is such that it is impossible to execute any satisfactory repair without replacing at least five of the architrave stones. Of the six columns composing the portico, four only are free; two of them are more or less embedded in the mass of masonry containing a staircase which was once surmounted by a Turkish minaret. The staircase may, however, have been previously built for the Christian church. This mass at any rate secures the southern columniation. The architraves supported by the four free columns consist of twelve stones. Of these twelve, only five are free from very great defects; but if five of them can be replaced with new material, two can be so pinned together to their neighbours that they may be supported sufficiently well. The worst defects are on the eastern side of the portico. With one exception the western stones are sound, which is fortunate, as they support the portion of the Panathenaic frieze which is still left on the temple. With regard to the defective one—namely, that which once connected the north-eastern column with its neighbour, but does not now perform that office, for it is completely severed into two portions by a bad crack—the simplest remedy would have been to replace it with new; but its removal would endanger a portion of the precious sculptures, and it will have to be keyed to a new stone placed alongside of it. Professor Dürm in his report suggests that the reason of this part of the Parthenon being in so much worse a condition than any other, is, that the original builders had used for an interior part of the fabric a very much worse material than they had provided for the exterior. It is true that the marble of these architraves is more streaky than could be found on the exterior; but the reason must be sought elsewhere, for streaky marble of very similar quality has endured extremely well on the temple of Jupiter Olympius, and another and more effective cause can be assigned to it, namely, one to which I have already referred—that is, fire, which once certainly, at the time of the explosion, as above stated, and I think also at an earlier period, had consumed all the inflammable part of the structure, and had very much calcined the whole of the superstructure of the Posticum, as the state of the surface of the marble gives clear evidence. It had also weakened the lintel of the great western door, to which I have already referred, and some of the columns of the Posticum, especially on their eastern sides, have also suffered. Many portions of the capitals and of the architrave stones in this part retain traces of iron plugs, which can only have been used to fix some material for the purpose of repairing the surfaces which had been split off by the action of fire. It is, however, unimportant to discuss the period at which such fire may have occurred, as we are now concerned only with its effects. It would, and does, completely explain the reason why the architrave stones of this portion of the building, although much less subject to ordinary weather vicissitudes, have become so much more cracked than those of the Peristyle. A large piece from the middle intercolumniation fell down in the earthquake of 1894, split off apparently at an ancient flaw. The course of deep stones above the architrave, which forms the back of the Panathenaic frieze, and ranges with it in level, is also very much cracked and dislocated, so much so that only two pieces in the whole length—that is, very little more than a quarter of the whole—are in a fit condition to be retained. These pieces, however, are neither so difficult to handle nor to replace as the main architrave stones, which have a length about 13 feet 9 inches each. The quarries on Pentelicus, although they are not yet exhausted, do not seem to yield to modern demand such blocks as the ancients were able to find there; and it must be added that the present method of working with the help of gunpowder is not favourable to the extraction of sound blocks of considerable length. It is probable, too, that Ictinus' contractors had better roads for bringing them down to Athens than the wretched tracks which must now be traversed.

When I was at Athens a strong scaffolding had been designed, which was to be surmounted by a "traveller," for the purpose of taking out the condemned blocks and fixing those which were to replace them; but the operation of removing the old blocks was likely to be a delicate one, because of the state of the course above them, namely, the platband, which supported the marble beams that formerly carried the ceiling. This course consisted of through stones, and formed also on the other side of the wall the moulded band under the ceiling-beams over the Peristyle ambulatory. The condition of this course was such that, although it might very well remain in its present order, it would not admit of being taken off and replaced without great loss; whereas, in consequence of the connection of all the courses together by iron dowels, the lower courses could not be lifted or drawn out sideways if this platband remained exactly as it was. The construction shown on the sections offered the solution of this difficulty. The hollow between the inner and outer frieze, which is sufficient for a workman to pass from end to end, was to be utilised by placing a screw jack over each column, and by means of a light iron or steel beam extending from jack to jack, lifting up the whole length of the platband until the dowels were cleared; and this would also give space for drawing out the defective architraves, and inserting those which were to go in their place, and would afterwards by reverse action allow the platband to descend to its proper level. I understood that this was the device of M. Balános, the Government engineer. Several of the capitals of the Posticum are so much shattered that they must be partly renewed—two of them to the extent of at least one-half—to enable them to support the new architrave stones.

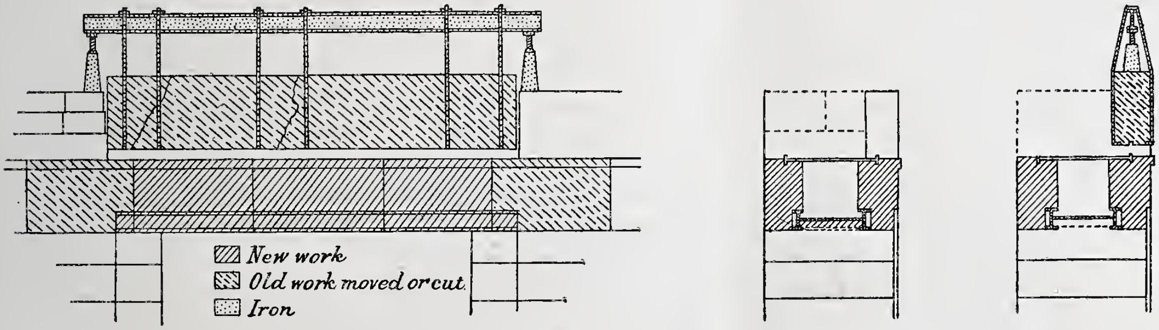


FIG. 3.—WESTERN DOORWAY.

The lintel of the great western door has been already referred to. At present the two ends of this originally magnificent stone remain in the wall, and give evidence of the insertion of the lines of the finished doorcase. All the rest is gone, and, as already stated, the place is occupied by an exceedingly unsightly brick arch. This, it is hoped, will be replaced by marble; but there is not the slightest prospect of a 30-foot beam being found, nor could it be brought to Athens with existing appliances. The plan recommended by me, and accepted by the Athenian Committee, and I presume by my German and French colleagues, to whom it was communicated, is shown in a drawing on the wall. The lower flanges of the real working supports were not to be hidden, but the general appearance would be marble of the same form as the original beam. The upper stone, of great length also, can still remain; but it must be treated very tenderly, because it is much cracked and weakened from the same cause that has produced such a disastrous effect upon the rest of the Posticum. The operation proposed is sufficiently explained on the diagram.

I have already referred to the insecure condition of the angles of the temple. This applies to the north-eastern and the two western angles, but not so much so to the south-eastern, for there the misadventure has already taken place, and the upper members have fallen to the ground.

The cause of the mischief must be traced to the great overhanging stones which supported the angular acroteria having a tendency to slip downwards and drag the neighbouring portions of the superstructure with them. No doubt with so flat a pitch it may be argued that the beds of the stones in question, sloping not more than 13½ degrees, do not exceed the angle of repose; but the theory of the angle of repose does not reckon for earthquakes and explosions. The chief hindrance to the stones in question slipping down during such vibration is due to the iron dowels which connected them with the masonry beneath. There is also a certain, but very inadequate, amount of joggling. The result in every case has been a considerable amount of outward pressure—in one case, as I have mentioned, sufficient pressure to have precipitated the upper members, and in the three others to produce serious cracks in the architrave, and in one case, *i.e.* the north-east angle, in the great corner-stone of the cornice also. The western front at both its angles has suffered in the architrave from this tendency, but the great corner-stones remain unimpaired. The worst crack in the architrave is over the north-west angle column, where owing to the fall of a large piece at the corner of the abacus the bearing of the outer stone of the architrave is reduced to little more than a point. The thickness of the architrave is here, as elsewhere, compounded of three pieces set up edgewise, each being nearly 2 feet thick and 4 feet 5 inches high.

Between the fourth and fifth columns of the west front, reckoning from the south, a crack through the architrave has been produced by a cannon-shot, and the abacus of the fourth column has been so much shattered that it does not give a bearing to more than about half the thickness of the architraves which rest upon it. The exfoliation of iron cramps connecting the architrave stones at the top has also injured all but one of the vertical joints, but beyond the breakages of the large splinters which have fallen, the injury from the iron cramps at these places does not seem likely to extend. Very careful attention should be paid to the north-east angle. The perspective sketch, which is an enlargement of one I made in 1846, appears to show it exactly as it remains at present, and it really seems a marvel that it survived the shake of the earthquake of 1894. The other diagrams will show a curious piece of construction of these parts: how a rather shallow trough has been formed on the top of the great angle-stone of the cornice parallel to the fronts, to the end of which trough a piece of stone about 30 inches long, and measuring in section no more than about 18 inches by 5 inches in depth, seems to have been thrust in after the pediment was fixed. The object of this construction is extremely difficult to explain. From the first I thought it seemed to denote some change of purpose, and my colleague, M. Magne, I find, has come to the same conclusion. However, at the north-east angle it is now performing an apparently useful purpose, for, without its support, it seems as if the lion's head which bears immediately over it could not but fall down. Another diagram [fig. 5] shows the manner in which I have suggested the angles should be secured from slipping any further in the direction above referred to, namely, by connecting the great horizontal corner-stones by means of strong gun-metal cramps with the main cornice at a sufficient distance, so as to provide an adequate amount of weight to resist the tendency. If this great

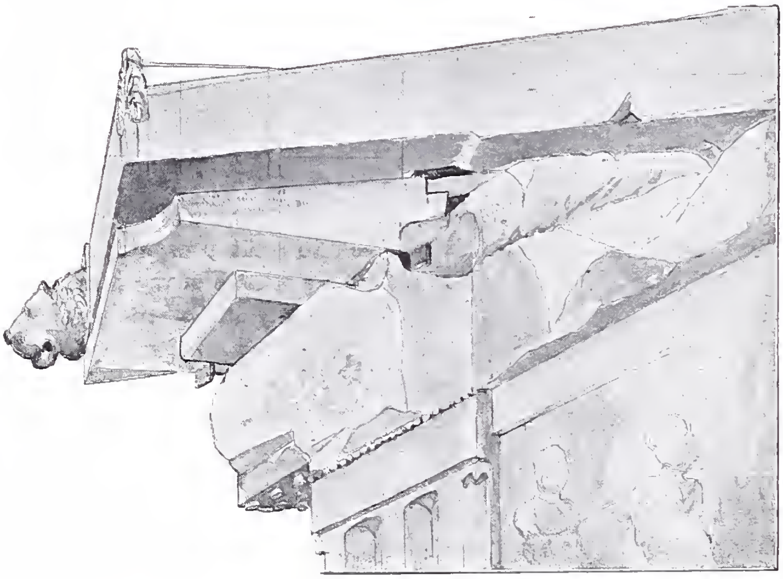


FIG. 4.—NORTH-EAST ANGLE.

stone were made immovable, the dowels and such joggling as there is would be available to connect the sloping bed above very firmly with it. The north-east angle would require some extra cramping, as the great cornice-stone is itself cracked across. This cramping would be unnecessary at the south-west angle, for the reason given above.

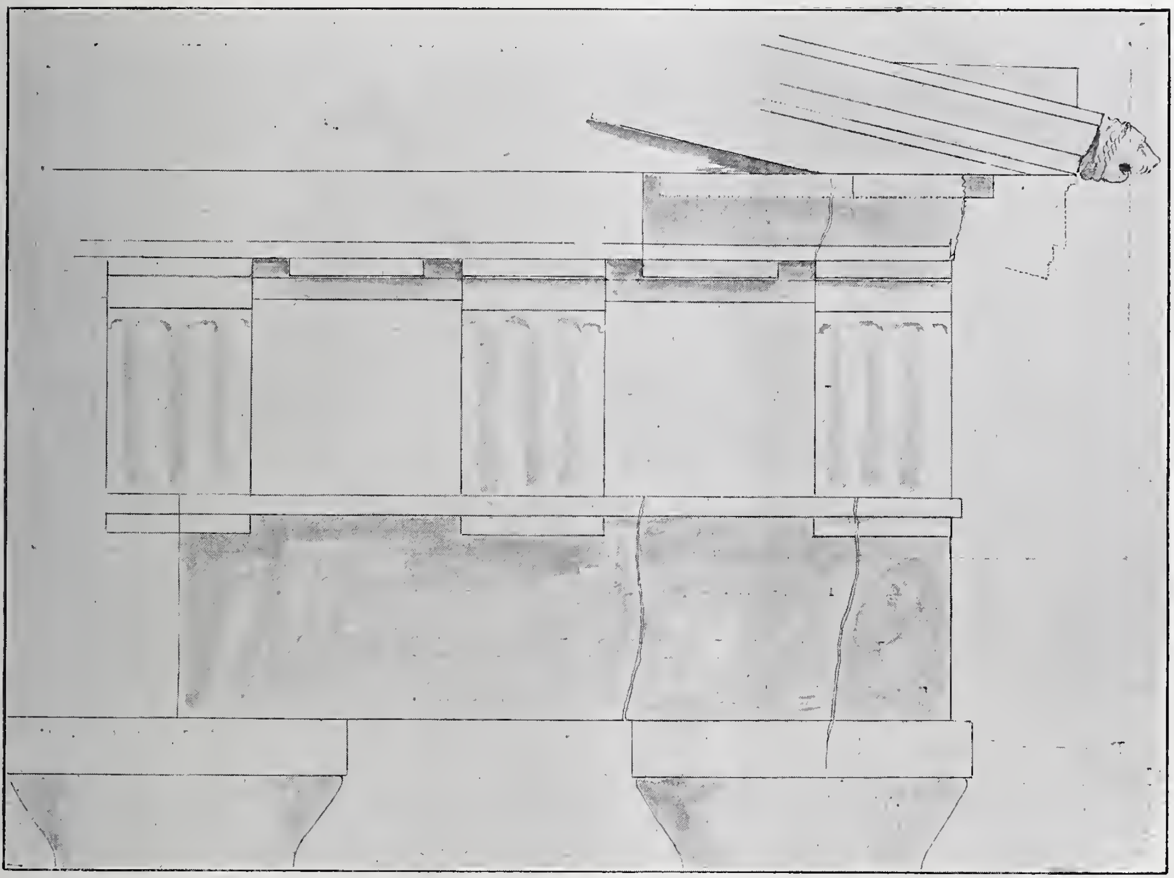


FIG. 5.—NORTH-EAST ANGLE.

Several other points were discussed, and amongst them the pointing of all the open joints at the top of the building, the bringing down of any small loose pieces that there might be, &c.

Very few of the new stones which would have to be introduced would make any difference in the general view of the temple, and scarcely any of the steel- or bronze-work; and the new stone could be stained, as I was able to show by experiment, with copperas, so as to be almost indistinguishable from some of the old time-stained marble.

In conclusion I will quote a few passages from my Report in reference to the question of rebuilding, as far as possible, the fallen fragments:—

"I have heard a rumour that there is some desire to re-erect some of the columns which were thrown down by the explosion. I trust that this is only a vague rumour, and that there is no intention of this being done.

"The unfortunate attempt which was made on the north side in the beginning of the reign of the late king in this direction ought to be a sufficient warning.

"The columns were originally built up with the drums rough-hewn externally, and finished and fluted afterwards. The great perfection of the joints which was the result is one main source of the great beauty of these columns. The re-erection of the fallen columns with these edges broken, and in many cases requiring to be pieced with new work, can only produce a discord, which is much to be deprecated. I was exceedingly glad to be told that this was not part of the authorised programme."

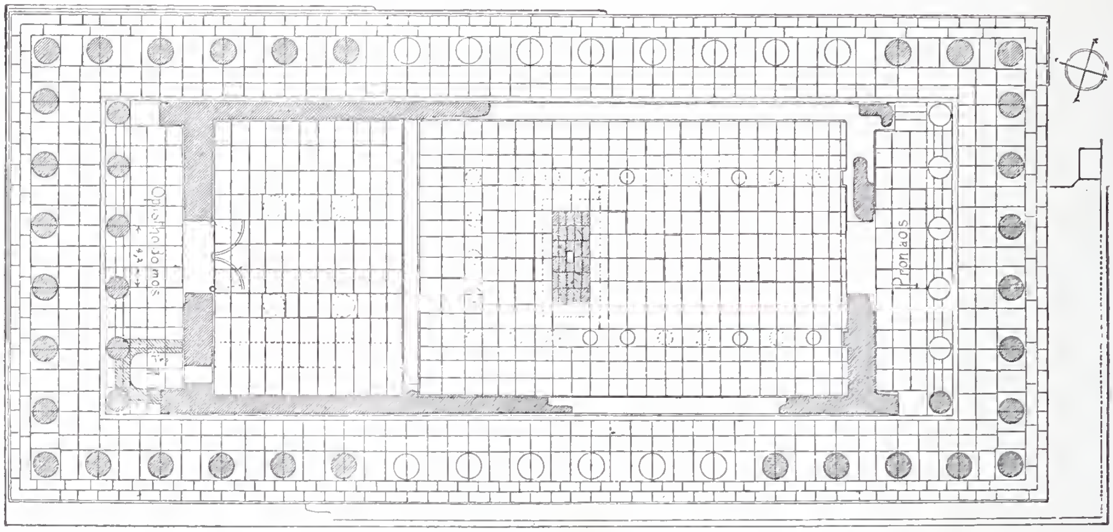


FIG. 6.—PLAN. Reproduced from Professor Dürm's Report.

DISCUSSION OF MR. PENROSE'S PAPER.

The President, Professor Aitchison, A.R.A., in the Chair.

Professor ERNEST GARDNER said that he had been in Athens at the time of the 1894 earthquake, and therefore was able to speak from personal observation of its results, and of the appearance of the fragments immediately after they had fallen. After the earthquake the first thing he had done was to go to the Acropolis to see the fragments that had fallen from the architraves of the columns. He could confirm one point which Mr. Penrose mentioned. The damage to these fragments was not done by the earthquake itself. There was hardly any trace of new fractures upon them; in fact, the greater part of the surface within the crack was overgrown even with lichen, and it was considerably discoloured, so that it was obvious that the cracks were old ones, and that the pieces had been just hanging on, until the slightest shock brought them down. There were questions on two or three points which he desired to put to Mr. Penrose. The first was as to the lower part of the minaret, of the great western door and the columns, and the inner lining of the great door. As regards the columns and the possibility of their re-erection, Mr. Penrose had already spoken in a tenor which the speaker was quite sure was in accordance with the general feeling of the Meeting. Nothing could be more discordant and even hideous than the mangled remains of columns that had been built up again upon the north side of the Parthenon. The reason of it was of course well known to all architects—viz. that it is impossible to place the pieces of a fluted column one above another after they have been fluted. The fluting in the Greek buildings was made after the erection of the columns, and the result of any attempt to build them up again was most disastrous. In comparing those mangled remains of columns built up with those not fallen, one felt how hideous they were. He thought it was impossible to rebuild the whole of the Parthenon. There was not material for it, unless a great many new blocks were cut, which no one would propose; and to cut a few blocks would simply destroy the symmetry of the building. The explosion had produced a kind of symmetry, the columns descending from each end towards the middle, and that was entirely destroyed by the remains of columns built up again. He wished that Mr. Penrose had recommended that those columns set up should be pulled down again; since they disfigured the building with the brick patches that had been put into them. With regard to the great western door, he was very glad to see that there was a proposal to replace the unsightly brick arch in a much more adequate manner, but he desired to know what Mr. Penrose would propose as regards the sides of that door. The present jambs of the door, on which that brick arch rests, are put inside the original jambs of the door. There are thin casings which were put up most probably when the Parthenon was converted into a church; and it was proposed, some three or four years ago, to remove, if possible, those extra jambs. As regards their removal there was one consideration—namely, that the blocks which had been built in by those who altered the Parthenon into a church had long inscriptions on the back of them which were perfectly illegible, and those inscriptions would be an extremely valuable document from an historical point of view. He would like to hear the opinion of Mr. Penrose as to the advisability or possibility of removing them without damaging the building. As to the lower part of the minaret that still remained, Mr. Penrose said it might possibly be the staircase that belonged to the time of the Christian church, and not necessarily to the Mosque. It afforded a great deal of support to the defective architraves there. The scheme of removing it as a later addition had been discussed some four or five years ago, and he (the speaker) had expressed a very strong opinion, from the historical point of view, as to the undesirability of doing so. After Mr. Penrose's lecture it was clear that its removal was also a serious danger to the building. Summing up, he said that he thought anybody who had looked at the Parthenon carefully must have been extremely alarmed at the cracks all over the building, and at the most inadequate way in which the heavy blocks were supported; but it was most reassuring to be told now by Mr. Penrose that the building might be made safe with such a small amount of restoration and of repair as had been suggested.

Mr. R. PHENÈ SPIERS [*F.*], F.S.A., after referring to the President's visit of fifty years ago and to his own of thirty years ago, said that it was impossible to point to any other structure with regard to every five feet of which one could find a fresh view to be taken. Looking carefully at the drawings and photographs exhibited, there seemed to have been little change in the structure. All the stones of the west front, the angle stones, seemed to be very much the same. Slight differences were to be met with near to the north-east angle—that is to say, to the left of the west front. The crack (as shown in one of Mr. Penrose's drawings) seemed to have increased a great deal since his visit, and he found, from the drawings exhibited, that there must be some greater damage done to the abacus of the capitals than what was seen in his own drawings. But apparently the effect of the earthquake was to shake down the loose portions, and very little damage was done to the building itself. Mr. Penrose spoke of certain stones being laid on the tiles. Did he mean the marble tiles? [Mr. Penrose assented.] Another question he desired to ask was: What was the actual cause of the discolouration of certain parts of the sculpture? To what were those beautiful yellow tones due—to the decomposition of the material of the marble, or to the discolouration from the iron dowels inside? When drawing the east front he had been greatly struck by the still visible traces of the shields there. They were originally gold, and were replaced by bronze shields about the third century A.D.; and although more than 1,500 years had passed, a trace of the shields was still visible. After referring to the general gratification at the President and Mr. Penrose having both been asked to form part of the international committee, Mr. Spiers said that he felt Mr. Penrose's propositions dealt with the building in a sparing way, as far as the restorations were concerned. Iron was very unsightly, and the employment of beams of similar materials to that which formerly existed would be better. It was rather difficult to say now, as one could not judge until the stone was in place; but when it was in place it was of such intense whiteness that it might be worth while to discolour it so that that intense whiteness might be avoided. He begged to be allowed, in conclusion, to propose a very hearty vote of thanks to Mr. Penrose.

Mr. T. J. WILLSON [*A.*] said that the whole architectural world might be congratulated on the happy result that the accident was not so bad as was thought. Testimony from Athens proved that pieces had come down, but they were not actually split at the time of the earthquake; they were old cracks. He congratulated Mr. Penrose on being the happy bearer of this news, and hoped he would soon find that all the repairs and precautions which he had recommended would be realised. He begged to be allowed to second the vote of thanks.

Mr. JOHN HEBB [*F.*] said that he had been most agreeably reassured by the statement that Mr. Penrose had made of the methods he had employed for repairing, and not restoring, the Parthenon. There was a vast difference between those two terms. There was no doubt that any attempt to set up the ruined frustrums of the columns would result in injury to the building. He was cordially in harmony with the general procedure which had been employed. Nothing could have been better than the ingenious way in which the architrave was raised, and the lintel placed underneath. If any other material than marble could be obtained, he did not know why it should not be employed for the actual repairs. As regards this being a blot which would show that something new had been introduced into the building, he would not be afraid of that. By all means let it appear as a repair, the brick arch which was placed over the western doorway being unquestionably a modern work.

Colouring the marble so as to make it imitate the colour of the old work was extremely risky. Nature would soon colour the marble, or, at any rate, if not soon, Nature had a wonderful habit of taking all buildings to herself, and of colouring them in harmony with the landscape.

Mr. HUGH STANNUS [*F.*] felt that they were very much indebted to Mr. Penrose for the manner in which he had approached and dealt with this subject. If he (the speaker) might be allowed, he should rush in where angels and elders feared to tread, and venture to submit some suggestions which, if they brought down upon him some obloquy, would, at any rate, provoke some discussion. He should like to submit for consideration the question whether this restoration of the Parthenon might not be carried one or two steps further. Mr. Penrose suggested about the pointing of the cracks and joints, and the ironwork, and protecting them from the disintegration produced by moisture. Many of the walls of Pompeii were protected by tiles. That of course was a very proper thing at Pompeii, because the walls themselves were brick; and there was a certain fitness and sympathy between the tiles and the bricks of the wall. But in the case of the Parthenon the *whole of the tops* of the walls might be rendered in cement with a slight weathering-slope, so as to throw the rain off. That would protect them for many years to come, and he thought that, taking advantage of that interesting little staircase in the south-western angle of the Opisthodomus, the guardians would be able to arrange for periodical inspection (say annually) of the whole of the tops of the walls—that they need not wait for the earthquakes, which happened at irregular intervals, but that once a year, or oftener it might be, some person should feel it his duty to go round and see that there was no crack of any kind whereby water could get in, or herbage find root to disintegrate the walls. He further submitted for consideration whether they might not also re-erect such other portions of columns as still existed. It was a thousand pities that those lay about, being spoiled themselves, and spoiling the plateau on which the Parthenon stands. It was objected that they were much damaged; but on examining the columns in the Olympeion, near by, it would be seen that those were very much hacked about at the joints, for extracting the iron and lead, as had been the case also at Baalbek. If that argument were held to be worth anything, surely they ought, for a similar reason, to pull down all columns that were mutilated or hacked at the joints. But no one was vandal enough to suppose that they should pull down the columns. In dealing with the Parthenon they ought to think not what an "anti-scrape" would think, but what Ictinus would wish to be done to his building. That was the problem to be dealt with now. It "is a noble ruin"; but they must remember that Ictinus built it with a wall forming the cella, with a peristyle round that. The materials of more than half the number of columns were still extant; and he would respectfully submit that these might be re-erected so far as the remains allowed. Of course they were damaged at the joints, and they knew that when first built up and the flutes were first cut, then they had microscopic joints; but these broken joints when the columns were built up would be quite in keeping with other broken joints in the other columns and the wall.* He would go one step further: he would submit that the cella wall itself might be built up all round. The hiatus was shown in the photographs and drawings; and still more, one felt profound melancholy in looking at the building itself from the valley of the Ilissos, or from the modern city of Athens. They saw that a building which was intended to be one great whole was now *in two pieces*. He would like those two pieces to be joined even by a wall of sandstone, so that they might have that solid mass against the sky as it was left in 438 B.C. The cella walls should be connected. It would have two advantages in addition to what he had just spoken of: the making of one grand group on the horizontal line against the sky which would compose so grandly and so nobly with the lines and contour of the Acropolis itself. If it were solid and made of the same thickness as the original wall, they might bring gun-metal stay-rods from the wall to the top of those columns, and thus make them more secure; and this was a constructive reason for the wall. But there was another reason that should have equal weight, and that was an æsthetic one. They must bear in mind that the building as designed by Ictinus was meant to be a *solid* building. Now it was only the bare skeleton of the building. It would be seen that those parts of the building which had a wall behind showed the effect Ictinus desired: that the columns should stand out *light* against the *dark* background. He would ask that the background should be put back again, so that they should have the effect he meant it to have.

Mr. ALEX. PAYNE [*F.*] said that in his opinion if anybody could restore those columns that had fallen down into the same state as the columns that had never fallen down, then possibly there would not be any objection to putting them up again. But anybody looking at the Parthenon could pick out in a minute those two or three columns on the north side which had been built up, on account of the bad fitting of the joints; there was a stone and then a slight variation, and then another stone and another slight variation. The whole had a jagged outline, very different from the perfect columns, which appeared as if made of a single stone. The case was different with the columns which had been cut into to get out the metal dowels, but in which the original outline was not disturbed. The restored columns in this case with their jagged outlines certainly destroyed the harmony of the building. If these columns could be set up like the others no one could object. Comparing some photographs taken during a visit to Athens twelve years back with Mr. Penrose's drawings, he desired to ask Mr. Penrose a few questions. Taking the west front in his photograph, part of the top of the capitals of the two right-hand columns was gone. The third column was just like Mr. Penrose's drawing. The fourth column likewise, but (he supposed it was the effect of the earthquake) the central lintel at the time he got that photograph was comparatively perfect except for the cannon-shot. The next two were like the photograph; but as to the last one, the corner of the capital appeared to have gone since the photograph was taken. He desired to mention an additional advantage in the Elgin Marbles being safe in the British Museum, and that is, that not only was the Parthenon subjected to bombardment, but the Turkish soldiers made the figures that remained targets for practice!

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* I would desire to add, in reference to what was said by Mr. Payne: I agree that the appearance of the re-erected portions of columns is unsatisfactory. They are probably parts of different columns, put together without proper care, at a time when the *Entasis* was not so well understood as at present; and any re-erection of the other remains should be accompanied by a taking-down and re-adjustment of these. The adjustment would not be difficult with our present appliances for haulage, and greater skill in measurement.—H. S.

Mr. J. M. BRYDON [*F.*] begged to ask Mr. Penrose how much of the frieze of the cella still remained. It had been incidentally mentioned that part of it was remaining on the western portico, but how much really was complete?—With regard to the frieze, it must have struck many how it was that the Greeks spent so much skill and labour on this magnificent frieze where it was so badly seen; that is to say, it was placed up inside of a wall behind a colonnade, at which one has to look up, at a very acute angle, so as to see it, in a very imperfect light. When Pericles had the Parthenon designed originally, it was designed as a cella wall with a portico at each end, and the frieze was on the external wall; but finding that the public money he used so liberally came in in great quantities, the design was altered, and he made it more magnificent by adding the porticoes all round. A certain support had been given to the theory in that the outer portico was not in alignment with the inner portico, namely, the eight pillars at each end are not quite in line with the six behind. He would like to hear Mr. Penrose's opinion on this German theory.

The PRESIDENT said that it appeared to him to be a very sad thing that the Greek Government, or some Government that would find the money, had not covered over the portion that was now left uncovered between the outer porticoes and the Posticum, where the portion of the Panathenaic frieze still remained. There is torrential rain occasionally in Greece which, more or less, soaks into the marble. He did not know whether there were frosts in midwinter, but thought it extremely likely, the consequence of which would be that the whole of the surface of this inimitable and priceless sculpture was being gradually destroyed. If the open parts were merely covered with boards, the expense could not be very great. This Panathenaic frieze was seen in reflected light; it is now left open to the sky, and another effect is produced; for the light coming from above cast the shadows downwards, while originally they were cast upwards.

Mr. F. C. PENROSE [*F.*], F.R.S., in reply, referred first to Professor Gardner's question about the inner lining of the great doorway, and said that he always supposed that it was desirable to maintain as much as possible the historical part of the building, where it did not greatly interfere with the classical; and even then with very great compunction. For instance, although it did not exactly refer to the Parthenon, he regretted exceedingly that the Frankish tower had been taken down, and with the same feelings he would regret that the inner lining of the great doorway, which explains itself perfectly, should be removed; but there should be no difficulty in taking out any pieces of it that might contain valuable inscriptions, and, after rubbing, putting them back again. As to the suggestion of covering over the lintel with marble beams, it is supposed entirely to rest upon the old wall without any help from this inner casing. Very little would be visible of the new stones. Of the front of the Posticum portico there would be not one stone. It would only be visible when one got inside and looked up. Between the Opisthodomus walls and the column no doubt the lintel of the great door would be seen; but from no other point. With regard to the cracks, he had paid a great deal of attention to them during his stay at Athens, and this he was able to do by means of ladders, and he did not find any change at all from cracks which he had measured and very carefully recorded in 1846; the rest he examined by binocular, and could not satisfy himself that there had been any alteration. The cleaning of the shields was very peculiar, because there was a very remarkable difference of colour in the surface covered by the shields; but one might suppose that those shields, especially the bronze ones, may have come down to a very considerable date, and therefore 500 or 600 years of natural discolouration went on outside them and not inside them. In his opinion, that sufficiently accounted for the difference of the stones inside and outside. The discolouration came from the iron which was invisible in the fresh Panathenaic marble, but is present in all marble when brought out by the oxygen and other vapours of the air. The Panathenaic marble was the natural substance to use, both on account of its local value, and from the fact that it was more easily accessible. The colours of the Pentelican marble would suit the old, when it was a little time-worn, but originally the Panathenaic marble was certainly stained. We have records that staining was used on the marble, and the fresh marble is almost insupportably bright in the Attic sunshine. Therefore time has given us an advantage on the building which the ancients never had in that one respect. The covering up of the protection of the iron which he had supposed to be done with cement, and which the committee were anxious to do, was simply pointing with a very quiet and dull cement, on the top of the joints. Referring to the injured capitals, he had no doubt that there were several capitals on the west front in a worse state of repair than was shown in his drawing. Those marked in the drawing were those which he had marked on his sketch for the purpose of considering what was important and what was not. Where a capital was broken off, he did not mark it, as being of no particular consequence; and those that appeared to him to be marks in the construction, he believed he had marked sufficiently. He suggested this explanation of the difference between his drawing and the photograph. With reference to the sculptured frieze, he said that a very small portion remained on the south side over one columniation, a matter of 14 or 15 feet. Then it went as far as the fifth column of the hexastyle portico of the Posticum, and there was broken off. If covering it over with glass could be done efficiently, and without looking modern and weak and poor, it would be a great advantage to the sculptures. He had no doubt that the marble, if protected above, as it is by the overhanging moulding, would bear a great many centuries of disintegration from Attic storms and tempests. The frosts in Attica were not very severe.

⁂ The illustrations to Mr. Penrose's Paper included, besides the diagrams referred to—the more important of which are reproduced on foregoing pages—some water-colour drawings made by Mr. R. Phenè Spiers in 1866, and lent by him for the occasion. These drawings represented the west and east façades of the Parthenon, the north-east angle, the east front from the south-east corner, and the interior. Mr. Spiers also lent a series of photographs taken by Mr. Stillman in 1869: two of the interior (one showing the ruts in the pavement worn by the great bronze doors of the Opisthodomus), a view taken at a high level in the west peristyle showing portions of the Panathenaic frieze still *in situ*; and six photographs, taken by the late Ernest George Spiers, of the west and east fronts, and general views of the interior and south sides.

9, Conduit Street, London, W., 20*th May* 1897.

CHRONICLE.

Architects and Reinstatement of Buildings after Fire [pp. 174, 239, 328–30].

The following letter, addressed to the Editor of the JOURNAL, has been received from Mr. E. Cozens Smith, General Manager of the Imperial Insurance Company, Limited:—

SIR,—My attention has been drawn to the correspondence and reported discussions on this subject which have appeared in your JOURNAL, and in which the action and views of this Company are so misrepresented that I feel it incumbent on me to furnish you with the following facts. The subject was, as you are aware, originated by the Institute, which, like myself and many others, considered the common practice of providing for the payment of architects' services to clients in the reinstatement of insured buildings by tacking a sum on to the builders' account was detrimental to the character and position of the architect. To remedy this, the Council of the Royal Institute addressed themselves to the Associated Fire Offices, with the result that the Fire Offices pointed out that whilst they were unable to admit or enforce the rights of an associated body, or any of its members, to payment for services arising out of a contract between the Insurance Company and its insured, they recognised the equity and common-sense of the position taken, viz. that the amount payable to a policy-holder for the destruction of or damage to a building, if limited to the actual cost of the builders' materials and labour, was not a full discharge of the insurer's liability, because, ordinarily, no layman could attain a reconstructed or repaired building by the outlay of that amount, unless he employed, and was paid the cost of, an architect whose services were a necessary adjunct; and so far from "the Insurance Offices" having decided or issued circulars intimating "that they would not permit the architects' commission to be paid by the Fire Insurance Offices" they determined and announced the exact contrary. It has been also decided that this equitable liability of insurers to their insured would be admitted, irrespective of a specific insurance of architects' fees, in addition to the insurance on the building; in fact, the insurance of fees is deprecated as being, not only superfluous, but in a sense prejudicial to the insured as inferentially weakening his rights as above described.—I am, Sir, your obedient servant, E. COZENS SMITH.

The late Charles Alfred Chastel de Boinville [*A.*].

The following memoir of Mr. de Boinville, who was elected Associate in 1882, has been communicated by Mr. Campbell Douglas [*F.*] (Glasgow):—

When I was asked by the Secretary to contribute an obituary notice of my friend, I felt that I could not refuse to do so, although the doing it recalls many happy memories which are changed to sadness in the present. His antecedents and his life were not like those of the majority of one's friends; but as they are interesting I may be excused for saying a little that is beyond the strictly personal.

He was the representative of a noble family of Lorraine, who took their name from their estate of Boinville. His great-grandfather, Jean Baptiste Chastel de Boinville, became much associated with Lafayette in political matters, and served as aide-de-camp under him. When the Revolution broke out, and the King and Queen were brought from Versailles to Paris, they were escorted by Lafayette, who rode on one side of the carriage, and by De Boinville on the other. Like many other noble unfortunates, Jean Baptiste's estates were confiscated by the Revolutionary Government; but, although he was an aristocrat, he was a reformer, and he lost his life in the Russian Campaign of 1812.

The subject of our sketch was born at Lisieux —where his father was pastor—in March 1850. After some years Mr. de Boinville was removed to Bar-le-Duc in Lorraine, near the old family home, and subsequently to Cherbourg. Charles Alfred entered the office of the late Mr. William H. White, who at that time was in practice as an architect in Paris, and afterwards became Secretary of the Institute. De Boinville remained with him till the war broke out, and was then called to serve his country, writing many balloon-post letters to his anxious family.

It was this Franco-German war which led to the friendship I have just lately lost. My first acquaintance with him was in April 1871, when he came to Glasgow, shortly after the conclusion of the war, having, as an officer of the Garde Mobile, been on the defence of Paris during the protracted siege, suffering much hardship, of which he bore signs in his attenuated person. His bed during that severe winter was generally either a plank or the bare ground. Many were the tales he told of the straits to which the defenders were reduced; his spirit never flagged.

The master roots of his life had grown before I had the happiness of making his acquaintance. Some of my connections had known his father, and for this reason he came to my house, trusting to get into some good office in Glasgow; but growing interested in some work I was then doing, he entered my office, and stayed in my house for about a year and a half. In this way I came to know him as an architect and to love him as a man.

At that time my friend Mr. MacVean was in the Civil Service of the Japanese Government, being chief surveyor of the Public Works Department, and having charge of the lighthouses. He had a good deal of building work to do, and so it happened that I was employed to buy for this Department and send out a quantity of fittings and building materials. As his building engagements multiplied, Mr. MacVean requested me to send him a good architectural draughtsman, and, if possible, one of quick and skilful resources. I engaged young Charles de Boinville for him, who arrived in Tokio in December 1872, and worked under Mr. MacVean for some time. But in 1874 the Japanese Government detached the Survey Department from the Public Works Department and attached it to the Home Office; and when a head was wanted for the Public Works Building Department, the authorities, having seen the thoroughness of De Boinville's architectural training, selected him, young as he was, for that responsible position. In that service he remained for some eight or nine years, until the Japanese began gradually to dismiss their foreign assistants when they thought they could dispense with their services. Mr. MacVean writes to me "that during De Boinville's life in Japan he designed and had charge of many buildings, but that his two chief works were—(1) the Engineering College of Tokio, including the main building, museum, workshops, dormitories, professors' houses, &c., and (2) the New Imperial Palace; both of which would be considered important works even in this country; that in all he did he gave the greatest satisfaction to the Government; that he never heard any one speak evil of him; and that he was always genial, kindly, and a gentleman."

After his return to England, his short life was still a varied one, full of incident, as it had been from the beginning. After a short term of partnership—of which I need say no more than that it did not realise his expectations—he settled down in H.M. Office of Works in Whitehall Place. Here I know his services were very highly appreciated, and I have not infrequently admired the extraordinary thoroughness of the detail drawings prepared there, which I am afraid is more seldom seen in our private practice. The confidence reposed in him there is evidenced by the repeated visits on which he was sent to the foreign Embassies, such as Brussels, Paris, and Lisbon, where he instituted and carried through important works. Indeed, it was on account of his much valued services at Whitehall Place—or at least largely a direct result of them—that he was appointed to the honourable position of Surveyor to the India Office by the late Government. These last three years, barely, of his life have been too short, and my knowledge of his work there too limited for me to speak of them; but I know he was much interested in a work which he completed shortly before his death—viz. putting an upper storey of some sixteen apartments over part of the India Office. Carried out during much wet weather, without interrupting any work in the existing rooms—or doing any damage by water—and designed in such a way as to be invisible from any important point of sight, in my opinion, this work showed his native practical resourcefulness. His knowledge on all matters connected with sanitation was great and inventive, and his opinion and advice on such matters were sought by some of the principal makers in London. His scientific and constructive powers, as well as his business capacity, were of a very high order.

His personality was characteristic, uniting the nobility of appearance, the courtesy, refinement, charm, and gracious liveliness of demeanour inherited from his French ancestry, with the generous self-forgetfulness, high probity, and conscientious adherence to duty derived from the maternal side, which was English for three generations. He had gone to Buxton for his Easter holiday, but contracted a chill, which developed pneumonia and internal gout, terminating fatally on Sunday, the 25th April.

The late Arthur Baker [*F.*].

Arthur Baker, who died on the 29th ult. at the age of fifty-five, had been a Fellow of the Institute since 1888. The following particulars of his professional career have been kindly furnished by his partner, Mr. Harold Hughes [*A.*]:—

After spending several years on large engineering works, including the forts on the Portsdown Hills, Mr. Baker entered the office of the late Sir Gilbert Scott as an articled pupil in 1864. In 1865 he won the Institute Silver Medal for a set of drawings of the east end and Ladye Chapel of St. Alban's Abbey. He was admitted a student of the Royal Academy in 1868. On the expiration of his articles, Mr. Baker continued in Sir Gilbert Scott's office as assistant until Sir Gilbert's death in 1878. Setting up for himself, he carried on practice alone till 1891, with the exception of a short period of partnership with Mr. A. W. N. Burder. In 1891 he entered into partnership with Mr. Harold Hughes, and in 1893 with Mr. John Turrill. These partnerships continued up to the time of his death. Mr. Baker was elected an Associate of the Royal Cambrian Academy in 1892, and an Academician in 1894. In April 1895 he was appointed one of the two surveyors for the diocese of London. Among works carried out from Mr. Baker's designs may be mentioned the Churches of St. Paul, Kensington; St. Laurence, Northampton, and St. Padarn, Llanberis; additions to the Churches of St. Cybi, Holyhead, and St. Gabriel, Pimlico; restorations of Hampstead Norreys, Llanrhaidr, Abergele, and Llansilin Churches; pulpit, screen, and choir fittings of St. Barnabas', Kensington; many parochial buildings and schools; Fishbourne Rectory, Chichester; St. John's Vicarage, Chelsea; and Plâs Llanychan, Denbighshire. Mr. Baker served for some years on the Science Standing Committee of the Institute. He was the joint author of a monograph on "Plâs Mawr, Conway," and the author of "Model Drainage and Plumbing Specifications," published in the *Building News*.

Additions to the Library.

Many important works have been added to the Library since the last issue of the JOURNAL. Mr. H. L. Florence has presented an ornate folio entitled *Delle Antiche Statue Greche e Romane che nell' Antisala della Libreria di San Marco, e in altri luoghi pubblici di Venezia si trovano,* two parts bound in one volume and each part containing fifty excellent engravings, accompanied by a page of letterpress (Venice, 1740–43). The book is in perfect condition and handsomely bound. Although it is an Italian publication and published in Italy, one observes a number of English names on its list of subscribers.—The Library has also been fortunate in securing a copy of *The Art of William Morris*, a record by Aymer Vallance, and a work whose general decorative appearance suggests the influence of the Morris school. The edition, limited to 220 copies, of which 210 are for sale, contains, besides Mr. Vallance's interesting account and criticism of Morris's art (the author disclaims any purely biographical importance for his work), a portrait of the dead artist, numerous reproductions from designs and fabrics printed in the colours of the originals, examples of the type and ornaments used at the Kelmscott Press, and other illustrations. Mr. Temple Scott contributes in an appendix an excellent bibliography [London: George Bell & Sons].—*Unser lieben Frauen Münster zu Freiburg im Breisgau*, a monograph of one of the finest and one of the most complete examples of Gothic churches in Germany, contains some sixty phototype illustrations of the pyramidal spire, with its exquisite open-work tracery, of the main entrance, richly ornamented with sculptures, of the Mediæval carved pulpit, of stained glass (dating from the fifteenth century), &c. The work, which contains a few introductory pages of letterpress, has been published under the direction of the Freiburger Münsterbauverein [Freiburg im Breisgau, 1896]; the illustrations are admirably clear, and, as a rule, worthy of their subject.—Another important acquisition is the *Dessins inédits de Viollet-Le-Duc*, published under the patronage of the Administration des Beaux-Arts by MM. A. de Baudot and Roussel. The publication has been issued in two parts, the first containing 138 plates illustrating 1,400 of Viollet-Le-Duc's drawings, never before published; the second part, *Dessins d'Ensembles*, contains 120 plates.—*Moebel aller Stilarten vom Ausgange des Mittelalters bis zum Ende des* 18 *Jahrhunderts*, containing fifty plates of examples of furniture selected and edited by Adalbert Roeper and Hans Bösch, the latter contributing a prefatory note, has also been added to the Reference Library.

The *Proceedings* of the Thirtieth Annual Convention of the American Institute of Architects (1896) has been received from the Institute, having as a frontispiece the portrait of the President, Mr. George B. Post. The only papers read before the Convention were "Influence of Steel Construction and of Plate Glass on the Development of Modern Style," by various authors; "National Architecture," by W. M. Aiken; and "Applied Arts and Sciences," by Dr. James B. Cook.—The last quarterly part of *The Architectural Record* contains many interesting and well-illustrated articles, including Part X. of Mr. Barr Ferree's well-informed series on French Cathedrals, "Wooden Houses in Switzerland," by Jean Schopper, "Chippendale Furniture," by A. C. Nye, "A Discovery of Horizontal Curves in Mediæval Italian Architecture," by W. H. Goodyear, &c.—"The Architecture of American Country Homes" is the title of an article, plentifully illustrated, contributed to *The Engineering Magazine* for May.—The *Journal* of the Royal Society of Antiquaries of Ireland (vol. 7, part i.) contains a paper, with twenty-two illustrations, on the "Origins of Prehistoric Ornament in Ireland," by George Coffey.—The Sussex Archæological Society have forwarded their *Collections* (vol. xl.), containing many useful papers, including a description of the mural paintings at the churches of Clayton and Rotherfield, Sussex, by C. E. Keyser, and an account of the antiquities of Slinfold, by J. Lewis André, &c.

REVIEWS. LIV.

(150)

THE LOTUS COLUMN.

Histoire de l'Ordre Lotiforme: étude d'archéologie égyptienne. Par George Foucart. 8o. 291 *pp.* 76 *illustrations, mostly by photograph. Paris: Leroux,* 1897.

This work is the most complete and important study that has been published on any single item of Egyptian archæology, and it would be hard to rival it in the literature of classical studies. To the general reader—or we may say to any but specialists—the prospect of debating the details of one single form of column through 291 large octavo pages is perhaps deterring, as it opens a vision of the demands of archæology, which would leave but little of life for any other pursuit. But when the work is read it will be felt how small a portion could be cut out, and how very few pages could be skipped as superfluous. The lack of such detailed studies in cognate lines makes it all the more needful to be somewhat general, and occasionally discursive, in order to bring in the ideas which are needed. Certainly the whole may be read with profit from every part by any student of architecture, or any scholar wishing to grasp archæological methods of inquiry. After reading it there is no possibility of forgetting or overlooking the story so plainly told by each of the trifling details and variations of the lotus column, which is the most beautiful and characteristic element of Egyptian architecture.

We propose here to give an analysis of the principal ideas, and at the same time to add a few considerations which we only regret that the author has not seen fit to treat more fully himself. It is an inevitable feature, however, of any work which covers a wide field of material for the first time, that no one student can hope for finality at the first essay. The more complete a new work is, the more points it raises on which other workers may have further observations.

The whole work is divided into (1) the origin of the lotus column, (2) the history of its successive forms, from the fifth dynasty down to the Roman Age, nearly 4,000 years. The evidence for the earliest architectural forms is stated from the architectural figures in the hieroglyphs, which show what was done as early as the beginning of writing, and from the illustrations of buildings on the sculptured monumental scenes. A very important disentangling of the conventional combinations of two or more points of view of a building is one of the most original researches in the volume. It explains the combined cornices, and the monstrous forms of columns which are figured on monuments, and which are shown to be formed of two or three separate capitals belonging to different cornices, all superposed in one view. The existence of such monstrous and hybrid forms, many of which would be impossible except in metal, is here clearly explained away, and we may hope that Egyptians will never again be accused of such bad taste. (Pp. 26-33, 67-68.)

In this section we would note (p. 15) that the fluted column shown at Medum is not merely indicated by colour, but is actually fluted in relief in the hieroglyphic sign; and (p. 16) the signs at Medum show that they are near the origin of sign writing, as the changes within a century or two later deviate rapidly from the earlier and more realistic types found at the beginning of the fourth dynasty.

The next chapter deals with the character of the shaft, base, tenon,* and architrave. In this a footnote (p. 37) just touches on a great question, which we much regret that the author has not fully developed. He insists, and rightly, on the stone forms being derived from wood; but he falters, and scarcely dares to carry back the wood forms to the real starting-point in mud and reeds. The evidences for this are so obvious when stated that they can scarcely be forgotten or overlooked. The typical form is a group of four or six colonnettes, which are banded with colour in early instances, and which are shown as composed of separate reeds in the naturalistic work at Tell el Amarna. The banding is evidence of the binding round of each of the minor bundles, which compose the column. Such a form of column would be far stiffer than a single thick bundle, because each small bundle could be bound tighter, and also the section shows the stiffness of a ribbed structure of four lobes, which is stiffer than a single mass, just as a flange girder is stiffer than the same material in a solid bar. Besides the evidence of the banding and the reed markings, there is the decoration of the top with lotus flowers. M. Foucart falls back on the festal decorations of wood columns to explain the source of this (p. 62); but if a bundle of reeds be gathered in the marsh, what more natural than to tear up a few of the flowers growing among them, and to bind them in at the head of the bundle? When in addition to this evidence of structure and of decoration, we see bundles of reeds plastered with mud habitually used as columns in Egypt at present to carry heavy weights, and see how many other features of the architecture show the use of reeds or stems and mud, it seems impossible not to see the reed and mud origin of the lotus-topped column. The evidences trouble M. Foucart, though he does not place them together; the flower decoration is explained as festal (p. 62), the bundle of colonnettes is assumed to have been derived from a single column (p. 72), the flowers are remarked as never being found on pillars (p. 79), omitting to notice their natural connection with reed-bundles; the banding is ascribed to provincial blunders (p. 131), and the naturalistic bundles of reeds elaborately carved at Tell el Amarna are set down to a mere freak to avoid the deep recesses between the colonnettes (p. 233). All of these points are at once explained by reverting to the mud-and-reed origin of the multiple column.

In considering the origin of the abacus, M. Foucart feels a difficulty apparently in finding any sufficient cause (pp. 46, 47). Various trifling reasons are suggested; but when we once grasp the origin of the column in bundles of reeds, the need of a solid top on the bundle is obvious, to prevent the architraves dragging and crushing the reeds by uneven pressure; and the abacus continued to serve a useful function in wood and stone pillars, as flexure of the architrave does not thus risk bringing the pressure on the edge of the pillar, and causing flaking and vertical splits.

The origin of the gorge is readily taken back to a free top of loose palm branches (p. 51); but the source of the curvature is referred to the pressure of the roof above (p. 54). This, however, is contradicted by the long-continued convention that the roof is on the level of the torus at the base of the gorge, and the curvature of the gorge stands free and disconnected behind as in front. This points the rather to the curve imitating the free droop of the ends of palm branches above the point where they were tied together and attached to the roof. Such a free-drooping top is to be seen commonly above the palmstick-and-mud walls in Egypt at present.

The origin of the torus in a bundle of reeds bound together is of course recognised (p. 52). It is stated that its function along the edges of a building is to protect the friable crude bricks. But here, again, a view of the reed-and-mud origin of forms explains the function of the torus better. No brick building would be the better for a bundle of reeds, as such would be knocked off the angles by less forces than would injure the bricks. It would be, however, valuable to prevent the crushing of the tender edges of reed-and-mud cabins. Such cabins are constantly made all over Egypt at present as temporary dwellings.

The next chapter is a study of the lotus capital. The theories of its origin are stated; but, as we have noted, the festal source seems superseded by the natural binding in of water flowers along with reeds. From actual flowers a wooden copy was carved, and later translated into stone. The æsthetic objections to a flower capital are noticed, and the disappearance of most of them when it is recognised that the flowers are only a surface decoration and not structural. The parallel of the Corinthian capital might well have been quoted as a classical example of light vegetation round a solid support. The objections made to the height of the abacus are noted (p. 71), and the fact that the high abacus is only used with the widespread campaniform capital, in order to emphasise the purely decorative character of that wide mass (independent of the actual bearing area), by keeping it clear of the architrave. But a very important consideration is omitted. In Greek columns which were used externally the true elevation is seen, and the drawn elevation is a fair test of appearance. But the Egyptian campaniform capitals are used always inside a building, where the form is greatly foreshortened to the spectator below. Hence the drawn elevation by which critics judge the form is an appearance never seen in reality.

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* The Egyptian columns of wood had square tenons in the top to secure the abacus and architrave: similar dowels of copper existed in the granite pillars of the earliest temples.—W. M. F. P.

A very high abacus, or die, on the capital, is needed to keep the architrave obviously clear of it in appearance; and this separation is a necessity where the capital is purely decorative, and far wider than the architrave.

A slight mention is made of the campaniform shafts having three slight ribs (*nervures*), and it is suggested that they may have been formed of colonnettes originally (pp. 73, 74). But these three ribs or ridges point clearly to the three ridges or edges of the papyrus stem; these naturally belong to the campaniform top, which is the loose head of papyrus geometrically treated. Handles of mirrors have the three-edged form freely developed, with a papyrus top.

The next chapter contains an excellent discussion of the papyrus and lotus, pointing out the use of both the blue and the white lotus on monuments. It is the best summary of the facts as to the representations of these plants in architectural decoration by the Egyptians.

The second and longer part of the work deals with the historical changes of the conventional type. The starting-point is the exquisitely graceful lotus capital of the fifth dynasty (*circ.* 3,600 B.C.) from Abusir. It is cruel to begin with this, as not a single later variation will bear comparison with it; everything else seems clumsy and meaningless by its side. An important point seems to be not yet published, namely, that the six colonnettes of its stem are not equal. The section is hardly elliptical, as described, but rather two wide and flattened colonnettes back to back are each flanked by two smaller and round colonnettes. An admirable photograph of this lotus capital, on a large scale, is well reproduced on p. 104. That this is probably far from the earliest adoption of the type is fully recognised (p. 110). The comparison with a capital drawn in a monumental scene of the same age is full of interest (p. 112).

A general estimate of the character of the early temples (pp. 117–122) is an excursus which is well worth reading.

The well-known columns at Beni Hasan are next studied, and compared with others of the twelfth dynasty at Bubastis, the Labyrinth, and Tanis; while the attribution of these to the twelfth dynasty is reinforced by showing that the palm column (which is often supposed to be late) was in its finest treatment at that same age at El Bersheh and Ahnas. We might also quote, as instances of the palm column in the twelfth dynasty, the piece of a wooden capital from a house at Kahun, and the exquisite ivory carving of an ape seated on a palm capital from the same place.

The origin of the so-called ties of the bands around the column, produced by the degradation of the early type of lotus buds added between the flowers, is well shown in a series of nine examples on p. 145, ranging from the fourth dynasty to the Roman age.

Reference is then made to the stray lotus columns from Alexandria (in Vienna) which, from their work, show that they belong to the same age.

The painted figures of columns on the monuments of the twelfth dynasty are also noted; and a summary of our information about the twelfth to thirteenth dynasty temples is well put together (pp. 170–181).

The eighteenth dynasty is next studied. There is one object in the monumental blank between the fourteenth to the eighteenth dynasty, of which it is usually said—as by M. Foucart—that no record of construction exists (p. 182): for the stele of King Rahotep from Koptos records his reconstruction there, almost certainly in this period. The resemblance of the lotus columns of Thothmes III. to those of the twelfth dynasty at Hawara is noted; another instance of the descent of art from the twelfth to the eighteenth dynasty. On leaving the twelfth dynasty, the fine monolith columns of red granite disappear, and sandstone built in drums takes their place (pp. 190, 191). The radical effect of this change on the architecture is hardly noticed enough. So long as granite was used, the thickness of the shaft was only requisite for lateral strains, the crushing strength being much in excess of the weight carried. But when a soft material was used, stouter shafts were soon found to be needed, and the sectional area became the important element. When still worse construction was employed, as in the badly built columns of the great hall of Karnak, the sectional area required to carry the great architraves became so great, that no further increase of size was possible. Thus the style reached its limits, owing to bad material. If we imagine what the great hall of Karnak would have been, had it owed its design to the twelfth dynasty, when slender granite columns would been used instead of rotten sandstone piles, we see that, instead of appearing as the labour of Titans, it would have seemed to be the creation of the gods.

The immediate effect of using a very friable sandstone was that all surface finish was entrusted to a coloured coat of stucco, and hence the real aspect of the columns is now wholly lost (p. 192). Under Amenhotep III. further degradation is seen in the encumbering of the surface of the capital, as well as the abacus, with inscriptions; the form also loses all the remaining grace of the early times, and approaches its decadence. And next, under Amenhotep IV., the whole face of the column is frittered away in surface decoration. The restoration of the capital of the column of colonnettes of reeds, which I gave in *Tell el Amarna*, pl. vii., does not rest solely on fragments of a larger capital found in a different position, as M. Foucart supposes (p. 232), but on the lower part of the capital being found actually with the shaft, and fragments of a similar shaft (on a larger scale) being found along with the pieces of the larger capital, which supplied the completion of the top of it (see *Tell el Amarna*, pp. 9, 10). The capital also being in four lobes appears as if it belonged to a shaft of colonnettes, and not to the circular shaft of the usual campaniform capital.

The transition from a lobed to a heavy circular shaft and capital for the lotus column is shown to have taken place in the temple of Sety I.—a change which shows the ignorance and want of taste of the times. And this bald and clumsy form was further degraded in outline in the shameless shoddy columns of the great hall of Karnak.

Of the twenty-second and twenty-sixth dynasty works nothing is known. This is doubtless from their being mainly in the delta. Limestone was the material, and this has been hungrily gleaned for lime-burning by every later generation. Hence the monumental blank that occurs in an age so flourishing, and in which such grand works were carried on. Later still, of the Ptolemaic age, the temple of Eshmuneyn showed a bold and debased type; but the sugar factory has made an end of all that.

The Ptolemaic style, which showed an increased vitality, started at least as early as the thirtieth dynasty (p. 281); and it is suggested that such a fresh start implies an age of power and action, which points the rather to its having begun under the twenty-sixth dynasty. A plea is put in for the despised Ptolemaic work (p. 283). It is said that neither in material nor work is it inferior to the Ramesside. But surely to make such a comparison is alone a sufficient condemnation of it. The real fault of the Ptolemaic work is a pettiness and overloading of detail, which is misplaced and misunderstood, and a lack of structural power in the decoration, which becomes a mere surface ornament, and ceases to be an organic growth. The Ptolemaic temples are to the earlier ones, that have now perished, much what a mummy is to a man: the form is all there, inexpressively preserved, but the life has vanished for ever.

We have now briefly summarised this work, which is a refreshing promise of what we may yet hope to see from French students, and is a grateful contrast to the piles of showy volumes, full of errors of transcription and of drawing, which have rapidly loaded the shelves of Egyptology in recent years. W. M. Flinders Petrie.

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LORD LEIGHTON'S ROYAL ACADEMY ADDRESSES.

Addresses delivered to the Students of the Royal Academy by the late Lord Leighton. 8o. Lond. 1896. Price 7s. 6d. [Kegan Paul, Trench, Trübner & Co., Limited, Paternoster House, Charing Cross Road.]

A lecturer who gathers his audience together but once every other year, and has to make use of that rare occasion for putting the semblance of a ring round a subject so boundless as that of the Fine Arts, is forced by the necessities of the case to throw detail to the winds and to deal with the broadest generalisations. When the marshalling of facts has thus to be postponed to the theories which spring from them, the temptation is to take the inferences ready-made, and to rear a top-heavy structure on a foundation the security of which has never been ascertained. Lord Leighton took so conscientious a view of the duties of the President of the Royal Academy to its students that such a proceeding would have been impossible for him, even if the artist in him had been content to treat his mistress with so cavalier and superficial a courtesy. As a matter of fact, his summer holiday for years was devoted to the collection of material for the winter address.

The man without whom no London function was complete, who had learnt in a marvellous way to double the man of society—one might almost say, the man of fashion—with the student, the worker, and the craftsman, the claims of social life once satisfied, hurried away to find relaxation in change of scene, interest, and occupation, and to repair in solitude and by observation the inroads made by the effort of sustained original work under the exhausting conditions of town life. Thus even when, as in the Addresses more particularly concerned with architecture, the general theories are frankly taken *en bloc* from the works of specialists, while they are elucidated for us by a narrative, concise and yet perfectly readable, the facts which these theories presuppose have not equally been taken for granted, but have been, generally speaking, verified, besides being supported and illustrated by fresh instances of parallelism or contrast.

Each lecture is a more or less carefully rounded and complete composition in itself; but the whole forms a series—a truncated series, alas!—with a substantial thread of connection binding them all together. This is a far more interesting arrangement than the mere bundle of sticks, and justified, if justification were wanted for the assumption that the audience would have some knowledge of at least the previous lecture, by the presence among the ever-changing ranks of recruits of the solid leaven of veterans—the members of the Royal Academy itself—for these Presidential Addresses, though professedly delivered to the students alone, really belong in part to a larger world, and have come to be modified in a degree owing to the recognition of that fact.

One may, perhaps, allow oneself the expression of a regret that phrases natural enough in a spoken address should not have been pruned out in editing for publication. We do not need to be told that in actual delivery the whole thing was a race against time; but while the bestintentioned audiences are not proof against yawning fits, and lecturers hasten to disarm criticism and to stimulate flagging attention by constantly holding out hopes of the end, any such appeals in print are patently mistaken. It is as though a Lord Chesterfield should "rush" the end of every letter, and conclude "In haste to catch the Post"—most irritating, unconvincing, and unliterary of all formulas. Apart from this fault—which, after all, is not the writer's—the lectures have all their author's most characteristic literary qualities, great intelligence and power of clear and logical arrangement, with frequent bright informing phrases and flashes of witty presentment, which make the obscure as bright as day. But with this, there is the redundancy of diction, the love of fine writing for its own sake, the too uniform richness of word-painting, which make continuous reading the least bit tiresome. We seem to pass from one hothouse to another, without ever getting to the more homely flower-borders and the fresh air of heaven.

For the matter, it is not for a reviewer to abridge a narrative, even if it were possible further to compress what is already a "multum in parvo," but it may be said that the view here expressed of the function of Art is as high as one would naturally have looked for; and the duty of the artist to himself, if he intends to be a fit minister in her service, is put with refreshing candour.

The effects of climate, temperament, and conditions on a national art are everywhere clearly and even convincingly traced; nowhere more so than in the contrast instituted between German art under the Hohenstaufens and under the dominant influence of burgherdom. But it is idle to particularise; and this instance, if more striking, is possibly less subtle than others which might be mentioned.

These lectures are, of course, not printed now for the first time; but as the least the Academy could do was to render permanent, as they were delivered, monuments of industry, learning, and wit, which reflected honour on the whole body, so there can be no manner of doubt that the general public has rightly been accorded the opportunity of judging as a whole what it was given to only a very small number even to make acquaintance with piecemeal, and from year to year.

A. E. Street.

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SALISBURY CATHEDRAL.

Salisbury: the Cathedral and City. Bell's Cathedral Series. Edited by Gleeson White. Sm. 8o. Lond. 1896. Price 1s. 6d. [George Bell & Sons, York Street, Covent Garden.]

If, as some say, this is the age of handbooks, it seems a hopeful sign of the increasingly intelligent interest taken by the general public in things architectural, that such as the one under review should be designed to meet the demand. It should be possible to produce concise descriptions of our national monuments that will prove useful to the student; and, while not avoiding the technical, will also appeal to "the man in the street." Ignorance of ordinary architectural terms is too common to need emphasising, even many of our popular authors disdaining ordinary care in this respect.

Mr. Gleeson White is to be congratulated on the manner in which he has accomplished his by no means easy task. He gives a mass of information in a clear, concise, and intelligent form, and, without being too technical, is sufficiently so to be instructive. Unfortunately, he has not quite emancipated himself from errors of description incidental to guide-books. For instance, what he terms the "towers" flanking the west front can hardly be said to terminate in "spire-crowned pinnacles."

As the author says in his preface, he is fortunate in this case in being able to deal mostly with established facts. Commencing with a history of the Cathedral, a short description is given of its removal from Old Sarum. The contention that the latter site was abandoned on the plea of scarcity of water is hardly borne out by facts, for, as is pointed out later on, there were frequent conflicts between the Church and State authorities while the Cathedral was within the King's Castle. The bull of Honorius II., which is quoted, mentions no such reason as the first, and surely if there was enough water for garrison purposes there was sufficient for the Cathedral authorities.

It is rather unfair to name the somewhat scandalous motives attributed to Bishop Richard Poore for desiring to fix on Wilton as the new site. The character of Poore seems to point to far different reasons. The fact is overlooked that in 1075 the Council of London directed the removal of cathedrals from small towns and villages to larger towns and cities. As is stated, Wilton was a place of some importance, and is it not likely that Poore had this in mind? But, failing Wilton, the choice of such a wet site as the Myr-field, or Maer-field, certainly seems a curious one. In discussing this point, the author mentions the usual comparison with Venice; but he forgets that the main streets of Salisbury until quite recently had watercourses running alongside them, and one street is still called "The Canal." It is a too common failing to credit our forefathers with anything but common-sense. It appears that Poore was compelled to find a new site on his own land. Now we find that the Church of Sarum was endowed to a great extent with the old estates belonging to the bishoprics of Sherborne and Ramsbury. Many of these lay in Dorset or Berks; and if Poore wished to establish his new church near Old Sarum and Wilton, he may have been restricted to that part of his estates lying between the possessions of the Abbeys of Wilton and Amesbury. The Rev. W. H. Jones tells us that the possessions of Wilton nearly equalled those of Malmesbury, viz. 50,000 acres. However, the choice of such a site, whether enforced or not, gave an opportunity for some ingenious construction, as the continuous base for the piers shows. It may be noted that the cost of the new Cathedral is given as 40,000 marks. The Rev. W. H. Jones names the sum as 42,000.

The idea that Elias de Dereham was the architect is favoured by the author. It may be interesting to add that work identical with that at Salisbury may be found at Bishops Cannings in Wiltshire, the manor of which belonged to the Bishops of Salisbury. The author omits to state that Bishop Poore built the Palace, and that the crypt has been re-opened by the present Bishop.

In dealing with the various "restorations," mention is omitted of that done under Bishop John Hume in 1777, evidently in a secularising spirit, and as we are told that the choir was lengthened 20 feet, it seems probable that the altar was then removed, and not during the Perpendicular epoch, as is conjectured by Mr. Gleeson White. Wyatt is let off somewhat easily, and that he was not wholly responsible for the sweeping havoc he wrought is evident from the Chapter instructions quoted. If he had limited himself to these the results would have been unhappy enough, but unfortunately his passion for "vistas" resulted in far worse destruction. His most ardent apologists could hardly excuse the removal of the Bell Tower, which is well shown in a reproduction of an old engraving.

In describing the exterior of the fabric, mention is made of the tower being built on woolpacks. It may be of interest to add that an identical superstition (if it is one) attaches to the fine Early English detached belfry at West Walton, Norfolk, though the author seems unaware of this. This tower was erected on a wet site also. It has been suggested that, so far from any symbolical meaning being intended, the idea was merely to soak up water in the trenches. Mr. Gleeson White does not fail to note the daring feat in the erection of the tower and spire, though the present works to the former are a sad comment on his confidence in its future stability.

Many people will hardly agree with the author's strictures on the west front, and in condemning the central lancets he has overlooked their appearance from the interior.

In the description of the interior, mention is made of the twelve altars and their dedication. It might have been pointed out how these were probably allotted to the east wall space afforded by the transepts, for, excluding the High altar and Lady Chapel altar, we have one to each of the three bays of the nave transepts and each of the two bays of the choir transepts; and here we seem to have a motive for the plan.

In dealing with the monuments the author cannot resist a rather lengthy discussion on the question of the famous "boy Bishop," though he does not throw any fresh light on the subject. However, he gives some very interesting facts about the ancient custom.

The Cloisters and Chapter House are included under the head of "Interior," as are also the demolished Beauchamp and Hungerford Chapels, about which some valuable information is given, together with a view from an old print of the latter—a view which makes one bitterly regret the action of the authorities in permitting such vandalism as its demolition. But it is hard to say why the author includes "The Close" and "Bell Tower" in the "Interior," especially as he returns to the subject of the first at the end of his book. It might, too, have been less summarily dismissed, the remarks being rather sentimental than useful in one place, such items of interest as the complete shaft of a Mediæval "sack lift" in one of the canons' houses being unmentioned.

It may be well to add to the comments on the stained glass, that Dr. Simpson mentions that in 1620 there were "three great windows newly glazed, in rich colours, with the story of St. Paul." The window inserted in 1890 is by Henry Holiday, not Halliday, as stated.

The book concludes with a short history of the See and Diocese of Sarum, with a biographical list of the bishops. A mistake occurs in the account of Richard Poore. He was connected with Tarrant Crawford, not Monkton, in Dorset.

The numerous photographic illustrations are good, but it is a great pity that recourse has been had to Carter's book for many of the geometrical drawings. They are not particularly well drawn, nor are they accurate. Surely better examples were available. It is also to be regretted that a better plan was not provided, for it is sketchy and meagre in the extreme. The removed porches might have been indicated in addition to the Chapels.

A word should be said in praise of the cover, although the rather Celtic form of ornamentation has no parallel in the work under consideration. Despite its drawbacks, the book is a valuable one, ably written, and it should form a useful addition to the literature on the Cathedral.

A. Needham Wilson.

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FARADAY ON RATING.

Rating: Principles, Practice, Procedure. By P. Michael Faraday (Rating Surveyor). The legal matter revised by Stanley A. Latham, LL.B. (of the Parliamentary Bar, Associate of the Institute of Chartered Accountants, &c.). 8o. Lond. 1896. 536 pages. Price 12s. 6d. [" Estates Gazette" Offices, 6, St. Bride Street, E.C.; Sweet & Maxwell, 3, Chancery Lane, W.C.]

"Of making many books there is no end." The ordinary reader is apt to compare the reviewer, "so savage and Tartarly," to that energetic insect the wasp, which is popularly supposed to attack every one with a fine impartiality. The author appears to share this opinion, and in his Preface thus justifies his work against any who shall gird at him:—"Notwithstanding the number of important standard works already extant on the subject of parochial rating, I venture to think, on placing this book before the public, that it will fulfil a want, at least as regards the practice of making valuations from a surveyor's point of view."

"The surveyor's point of view" in this book is not conspicuous, and neither from the surveyor's point of view nor the lawyer's point of view is it clear why it was written. An author who attempts to elucidate the principles of rating, or to describe its practice, must of necessity deal with hackneyed precedents and long-established principles. The only plea for a new book must be the poor quality of the existing ones on the subject. Certainly the books of Penfold, Castle, Boyle and Davies, and others may not be thus described.

The principles of rating are now so complex and of such far-reaching scope that they cannot be compressed into such compass as this book presents. Moreover, an incomplete book on rating is dangerous because misleading, and is very much worse than useless. Many of the published handbooks or text-books (so called) on technical subjects are of this quality: they are the derision of the experts.

The book is divided into two main sections—principles and practice. The principles have been more thoroughly dealt with before, and there is nothing strikingly original in the details of practice.

The quotation of legal decisions at length (a characteristic feature of the book) cannot be commended, and although it may occasionally happen that the professional man cannot feel quite safe without reading the complete report, yet as a rule he is better pleased with a digest which states in concise language the inferences to be drawn from a judgment. Nothing of that kind yet produced is so thorough as the digest of cases attached to Boyle and Davies' *Principles of Rating*; this is, of course, founded on *Fisher's Digest*, but has been brought well up to date.

There is a table of cases, but it cannot be called complete. The reference to turnpike tolls in the chapter on exemptions is obsolete. Turnpike trusts do not exist in England. It is a question in the minds of many rating surveyors whether any exemptions are reasonable or politic.

The appendix contains extracts from the principal Acts of Parliament relating to parochial assessment, but neither are these complete. The very useful distinction adopted by some of the existing books on rating, of printing in italics such parts of the old Acts as are repealed by the Valuation (Metropolis) Act 1869, would have increased the convenience of reference.

There is, however, some originality in the chapter on the valuation of buildings. There is also a good index, and this, with the marginal summaries, are valuable aids to reference.

The whole of the New Agricultural Rates Act 1896 is printed in the appendix, and is followed by the "Copy of Order of the Local Government Board making regulations for the purposes of the Agricultural Rates Act 1896." This document embodies no fewer than twenty-one forms of notice, valuations, &c. These will probably make clearer the process of procedure, the directions for which in the Act are obscure. Whether the absurdly small relief which the Act affords to a most worthy class of men was worth the obloquy which it provoked is a matter of opinion. It is certain that even the twenty-one forms will not completely elucidate this Act, and much ministration of surveyors and plentiful legal appeals may be confidently anticipated.

John Leaning, F.S.I.

LEGAL.

THE LONDON BUILDING ACT.

Dangerous Structure Notice—Width of New Street.

Two decisions of Mr. Justice Hawkins and Mr. Justice Wright on the London Building Act 1894, both of considerable importance on its construction, are reported and commented upon in the *Law Journal* as follows:—

The London County Council v. *Bernstein*, decided on 11th May, turned on the construction of section 107 of the Act as to dangerous structures. A dangerous structure notice under section 106 was served on an owner of premises who, under section 107, required arbitration, and appointed a surveyor under section 107, subsection 2. This surveyor and the district surveyor appointed an arbitrator under that subsection, but did not together view the dangerous structure nor report thereon within seven days. The Council then took proceedings for non-compliance with the notice, considering that in default of a conjoint report within section 107, subsection 2, within seven days the arbitration lapsed; in other words, that the provision for report within that time was mandatory, and not directory, and that the making of a report within the prescribed time was a condition precedent to the jurisdiction of the arbitrator. This view was contested by the owner of the premises, and the magistrate did not adjourn the summons to await the result of the arbitration, but dismissed it on his reading of section 107. On a special case the judges, by a curious, if beneficial, mode of reasoning, read section 107, subsection 2, as meaning that though the two surveyors must jointly report within seven days, if they failed to do so the arbitrator could then act; and they also held that the Arbitration Act 1889 applied to the proceedings of the arbitrator, and the time for his award could be extended by the Court. But the Court seem to have thought that if any default were made within the seven days in appointing a surveyor or concurring as to an arbitrator the owner of the structure would lose his right to have arbitration.

The other case—*Regina* v. *London County Council*—decided on 10th May, turned on section 13 of the Act with reference to the width of new streets. Land in Deptford unbuilt on was bounded by a fence which became dilapidated. The owner then, under section 13, subsection 5, obtained what purported to be a certificate as to the position of the old fence, which for this purpose seems to have been treated by the district surveyor as a structure, and built in its stead a brick wall. He then built stables behind it, with the result that the brick wall, which thus became the external boundary of the forecourt of the stables, was within the prescribed distance from the centre of the adjacent street. No consent was got from the Council. They prosecuted the builder, under section 200, for breach of the provisions of sections 13 and 14, and he was convicted, subject to his right to a special case as to whether the old fence was a structure within section 13. The wall was not removed, and the builder was then prosecuted for continuing penalties; but this summons was dismissed because he had gone out of possession. The owner, Mrs. Webster, was then prosecuted (see section 152) for continuing penalties. She then applied for a consent to the erection of the fence within the prescribed premises, but the Council refused to entertain or consider the application. An appeal was also taken to the Tribunal, but dismissed on the ground that there was no determination to appeal from; and on the hearing before the magistrate the point was raised that she was entitled to a determination by the County Council, subject to review by the Building Tribunal of Appeal, whether it would or would not consent to the wall being retained in its then position under section 13, subsection 4; and the magistrate seems to have adjourned the case to let the owner apply for a *mandamus*. Examination of section 13 inevitably showed that the consent must *precede* the erection of the structure or building, and that the Tribunal of Appeal cannot be called in or the Council be asked to consent under the section where an illegal erection has taken place. The appeal to the Tribunal under section 13, subsection 4, does not seem to apply to refusals to consent to buildings at less than the prescribed distance, but only against neighbours or local authorities who object to consent being given, or persons affected by the conditions with which it is clogged. But the clause is obscure, and it may be that a refusal to consent as well as consent may be made the subject of an appeal if presented at the right time—*i.e.* before erection of the structure. One thing more the case establishes, that the remedy of the owner or builder is not by *mandamus*, the discretion of the Council being reviewable, if at all, only by the Tribunal of Appeal. Another point was involved, whether the Council could consent *after* the erection. It seems clear that nothing in the section gives any such power; but the Council can always resolve that in a particular case of illegality the technical wrong is one which it would have assented to if consulted in time, and is not one for which a prosecution should be instituted, or can compromise any proceedings taken in respect of such an illegality.

MINUTES. XIV.

At the Fourteenth General Meeting (Ordinary) of the Session, held on Monday, 17th May 1897, at 8 p.m., Professor Aitchison, A.R.A., *President*, in the Chair, the Minutes of the Meeting held 3rd May 1897 [p. 343] were taken as read and signed as correct.

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, and admitted by them to candidature, were recommended for election, namely:—As FELLOWS, Edward Albert Ram (Hong Kong); Stanley Percy Silcock [*A.*], *Qualified as Associate* 1888 (Warrington); George Eley Halliday (Cardiff); and Francis George Fielder Hooper [*A.*], *Qualified as Associate* 1882, *Pugin Student* 1882, *Godwin Bursar* 1888. As ASSOCIATES, Edward Albert Jollye [*Qualified* 1888]; Edward Harding Payne [*Qualified* 1896]; Edwin Nicholson [*Probationer* 1890, *Student* 1892, *Qualified* 1895]; James Saunders [*Qualified* 1892] (Oldham); Hugh Thomas Porter [*Qualified* 1896]. As HON. ASSOCIATES, Henry William Brewer; J. Lewis Thomas; Sir James Drogmore Linton, President of the Royal Institute of Painters in Water Colours. As HON. CORR. MEMBERS, Jean Jacques Winders (Antwerp); Alexandre Charles Arthur, Comte de Marsy, Directeur de la Société française d'Archéologie (Compiègne); Jean Théophile Homolle, Directeur de l'École française d'Athènes (Paris).

A Paper by Mr. F. C. Penrose [*F.*], F.R.S., entitled The Parthenon, and the Earthquake of 1894, having been read by the author and discussed, a Vote of Thanks was passed to him by acclamation.

The proceedings then closed, and the Meeting separated at 10 p.m.

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President, Mr. J. J. Burnet [*A.*], A.R.S.A.; *Vice-President*, Mr. David Barclay; *Treasurer*, Mr. Alexander Petrie; *Auditor*, Mr. Campbell Douglas [*F.*]; *Council*, Messrs. T. L. Watson [*F.*], John B. Wilson [*A.*], James M. Monro, John Thomson, J. A. Morris [*F.*], Alexander M'Gibbon, W. Forrest Salmon [*F.*], David Thomson, Horatio K. Bromhead [*A.*], John Keppie, and A. N. Paterson [*A.*], M.A.; *Secretary*, Mr. C. J. MacLean.

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THE PRACTICE OF ARBITRATIONS. By Professor Kerr [*F.*].

A TREATISE * that may fairly be described as a most useful book of reference for architects, and all the more that it is neither expensive to purchase nor bulky to handle, has just come into the Library. This seems, moreover, to be the only treatise of the kind that may claim to be specially—and so far exclusively—devoted to the consideration of the professional architect's (and engineer's) legal position; and it is one of its particular merits that, while professing to lay down the law for lawyers, and to do so on the basis of the most recently settled cases, its language is understandable by the building world as well. In this way the information supplied to the architect is set forth on the following plan:—his professional engagement, and remuneration, and the duty he undertakes; the authority he has to exercise, and the liability he incurs; the performance, or non-performance, of his builders' contracts, with the incidents of certificates and penalties; the various questions that may relate to easements and party-structures; and finally "a Chapter on Arbitrations."

It may be convenient in the present Paper to consider only the very important subject which stands last in the list—namely, the practice of building arbitrations; indeed, to look at this as a business apart, the due recognition of which as such is suggestive of something very like the doctrine that its systematic professional administration by architects, supposing them to be properly and expressly qualified for the work as a judicial order, might go much farther than it does towards enabling the building world to dispense in a great measure with the study of those perplexities which are dealt with throughout the rest of the book. Now it happens that the public mind in England has recently been peculiarly exercised about the question of arbitration in a supremely important form—namely, the international—and many sensible people have been not a little astonished to learn that a great kindred community which professes to be one of the shrewdest in the world, and most liberal-minded, seems to have its doubts about the expediency of accepting the principle freely. The proper view to take, however, of this remarkable episode appears to be, not that settlement by violence can by any possibility be preferable as a rule, but that settlement by reference, like everything else that is human, has its own weak points; for indeed it has long been ascertained as a fact amongst men of business that the process, however admirable in intention, does not always happen to turn out well in practice. To come to the point, we find the legal profession constantly and conscientiously complaining of inherent defects in the system, and the language used by the authors of this treatise states the case clearly enough:—"It is one very serious objection to arbitrations, as generally conducted, that the expense far exceeds the cost of ordinary litigation;" and, further, "a great amount of time is wasted, because the arbitrator" (meaning, of course, more particularly any other arbitrator than a lawyer) "cannot conduct the inquiry in the same expeditious and businesslike manner as a judge in Court." In reply to this challenge it is enough on the present occasion to say that in building references, although no doubt there is ample room for improvement, the objections quoted are by no means insurmountable when the arbitrator knows his business, and that an architect (*archi-tectus*, the chieftain of the work) of experience and good sense, sitting as arbitrator, need never be afraid of animadversion if he will insist upon a prompt exposition of the facts, and apply to them with the same promptitude those general principles of practical commonplace justice which come within the facile limits of what is called "a little law." Moreover, it must not be forgotten that when lawyers remark that architects have too little acquaintance with points of law, architects still more urgently complain that lawyers cannot but fail to understand clearly questions of practical building; and between these two conflicting claims the public verdict must certainly be that, whereas the building element is indispensable in a building reference, the legal element ought surely to be sufficiently represented in ordinary cases by expert knowledge. One other consideration which is of the utmost practical importance is this:—in expert arbitration the tribunal is personally and intelligently selected for the occasion by the direct choice of the parties interested, whereas in a Court of Law the element of what is equivalent to unintelligent chance is often much too conspicuous. Nor must we forget another practical distinction between litigation and arbitration—namely, that whereas the one process insists upon the matter of debate being restricted to narrow issues, often artificial and conventional, or even academical and esoteric, the other process enters thoroughly into all those matters of detail which, in building cases especially, are the most essential of all. It is in every way probable, therefore, that building disputes will be more and more frequently referred to the arbitration of architects, and it is a great deal to say that the book before us affords them an excellent opportunity for obtaining readily the qualifying legal knowledge.

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* *The Law relating to Civil Engineers, Architects, and Contractors; with a Chapter on Arbitrations.* By L. Livingston Macassey, Barrister-at-Law, M.Inst.C.E., and J. Andrew Strahan, M.A., LL.B., Barrister-at-Law, Hon. Assoc. R.I.B.A. Second Edition. 8o. Lond. 1897. Price 12*s.* 6*d.* Messrs. Stevens & Sons, 119-20, Chancery Lane.

One would scarcely like to suppose that any architect could permit himself to sit as arbitrator in ignorance of "the Arbitration Act of 1889" (which applies to England only, by the way, there being a special Act for Scotland of 1894, and Ireland lying, as usual, somewhat apart). But, as matter of fact, it is not altogether superfluous to point out that such an enactment ought obviously to be really attended to; in other words, that anything like the conducting of a reference in the old-fashioned rough-and-ready or even free-and-easy manner must be regarded now as hazardous, in the face of direct statutory law so recently established. Perhaps the case may be put thus:—that, in view of the very natural disinclination of the polished mind of a High Court of Justice to approve of the private intervention of unlearned outside adjudicators, but in recognition, nevertheless, of the irresistible preference on the part of the public for the employment of such convenient tribunals, the legislature has now been persuaded more expressly to legalise and indeed encourage them; but only under the stipulation that their practice shall conform in a reasonable degree to the substantial principles of legal practice, so that the decisions, which the Courts may be called upon to confirm, shall be arrived at in sufficient accordance with the more essential formalities of public justice. Accordingly the situation is this:—we find that before the year 1889 the law of arbitrations was so loose that it had practically to be sought for in an Act of the remote date of William the Third, with certain sections of an amending Act, itself nearly sixty years old, and portions of three more recent Acts relating to legal proceedings at large; so that it is not to be wondered at if unlearned referees had become somewhat licentious (so to call it) in their methods. It has therefore to be distinctly borne in mind by architect-referees nowadays that they have to proceed in strict accordance with a complete system of regulations laid down by statute only a very few years ago. Moreover, these rules, after all, for ordinary cases are simple enough:—arbitrators are encouraged to administer the oath freely; witnesses may be compelled to attend at a time and place appointed, and to produce documents; false testimony on oath is punishable as perjury; all evidence must be taken openly and in strict accordance with the practice of the Courts; an award, whether more formal or less so, must be definite, comprehensive, and intelligible on all points; arbitrators must make their award within three months after beginning to act (or must formally in writing enlarge that period); an umpire must make his award within one month beyond the arbitrators' period (or must formally enlarge his own); and so on; and the costs are to be in the very free discretion—possibly sometimes a little too free—of the tribunal. In the volume before us the text of this important statute, which in itself is short although complex, is duly set forth for reference; but of course there is also a good deal of information as to its legal application and working, to which the judicious reader may devote careful attention without much trouble.

The classes of disputes which come to be referred to an architect as an arbitrator are of considerable variety. The application of the "arbitration clause" of building contracts has of late years become prominent; questions arising out of accident or misadventure, or other indirect or technical responsibility, are frequent; cases occur of structural damage, of negligence of various kinds, or of speculative liability; there are compensation cases and valuations, sanitary cases, claims for light and air or for support; cases of repair, of dilapidations, of works to party-walls, of dangerous structures, of fixtures; Building Act cases of more or less difficulty; questions of professional etiquette and charges; and others; and recent litigation has thrown a strong light on a special class of cases which have long been of common occurrence and of troublesome character, namely, the disputes which arise between the architect and the contracting builder when there is no "arbitration clause" in the contract; the architect, strange to say, then becoming the legalised and something very like absolute judge in (so to speak) his own quarrel. On the particular and obviously difficult point of law here involved, what is regarded as the leading case (an engineer's case—*Jackson* v. *The Barry Railway Co.*) was decided as recently as 1893, in the Court of Appeal, by Lords Justices Lindley and Bowen, but Lord Justice Smith dissenting. It is fully dealt with in the treatise under review, but the practical result for architects is broadly this:—that the builder who has agreed to do his work to the architect's satisfaction (without an arbitration clause), but now disputes the justice of some of that architect's directions, can no longer, as it seems, fall back upon the well-known contention of common sense and common law that such directions ought always to be reasonable and impartial, but finds himself a party in a legal form of dispute in which the architect is, by the agreement, himself the "arbitrator," with no appeal from his "decision"—even although such decision or award may most probably be simply a more formal reiteration of the very direction that is appealed against (as it emphatically was in the above leading case). The justification for this apparent anomaly is declared to be that the authority of an engineer or architect must be regarded as that of a man of such reliable honour, knowledge, and judgment (here we are of course much obliged for the compliment), that the contractor, in no sense unwarily, has covenanted to submit to his absolute dictation and mastery. Of course, if strictly inquired into, the doctrine as thus stated is seen to be only a convenient legal fiction; and, although it is to the signal honour of the great body of architects that we may refer without risk of contradiction to the fact that building contractors do actually place the utmost confidence in their personal integrity, it is nevertheless easy enough to imagine cases in which the architect, as the paid agent of an exacting principal, animated by the maxims so frequently quoted with approval about "doing the best he can for his client," and being perhaps exacting on his own account as well, may feel inclined to "let the contractor look after himself," when it would seem he is by law helplessly unable to do so. It therefore comes to this, that a contractor must carefully take the measure of an architect's character beforehand, or otherwise with equal care see that a properly framed arbitration clause is inserted in his contract, and, none the less, a proper arbitrator appointed or provided for. But at the same time it may still be difficult for practical men to see why the good old rule should not remain in force—that the word "reasonable" is to be read into any condition of otherwise arbitrary approval, unless the well-known proviso of conveyancers be directly introduced, if only by way of warning, that such approval "shall not be unreasonably withheld." In connection with this point it may not be amiss to quote the severe words of the Court of Appeal, spoken only a few weeks ago in the interesting and difficult case of *Drew-Bear & Co.* v. *the St. Pancras Guardians*:—"They" (the plaintiff builders) "also said that the architect delayed them in their work in two ways; by giving wrong orders with regard to the work, and by compelling them to undo that which had already been completed. But they forgot that the work was all to be done to the satisfaction of the architect, and that, however erroneously the architect might have exercised that duty, the builder could not sue the Guardians for that;" and, again, "if it was said that the builder found himself in slavery, he ought to have considered that when he entered into the contract." The law, therefore, is strictly uncompromising, and so far it is for the builder to beware.

The curious distinction that the law makes between "Arbitration" and "Valuation" is not overlooked in this treatise. To the commonplace architectural intelligence a reference by two parties to a third to determine a disputed question of commercial value, and one to decide any other commercial difference not affecting mere value, are both alike processes of arbitrament having precisely the same nature and effect; but the law somehow finds it is not so, but that they are as different as a charge of assault, for instance, and a claim for rent. How far this distinction with such an impalpable difference might be found to affect the various kinds of building references, if the question were fairly argued out, is a point that seems to be worthy of more consideration than perhaps it has received; but, at any rate, this has been laid down, in the words of the highest authority, to be the spirit of the law—that whereas "arbitration" is "a judicial proceeding" by a person who hears evidence and pronounces judgment thereon, "valuation" is an act performed as a mystery by a person who "is merely using his own skill and knowledge"; and that, consequently, while an architect who is acting as an "arbitrator" is more or less "an officer of the Court," amenable to the discipline of the Court, the same architect's "finding," as a "valuer"—presumably in respect of builder's prices—"cannot be enforced as an award, and the valuer cannot be directed by the Court;" that is to say, apparently, so long as he avoids giving details, however shabbily, his totals cannot be disputed, or indeed inquired about, even if there should be plainly, and almost (but not quite) confessedly, a blunder in the figures. In fact, a "valuer," as it seems, need not listen to evidence at all, but is supposed to arrive at his conclusions by some sort of occult intuition, and he may actually order the payment by either party of any sum of money he pleases to name, without explanation and without appeal, simply saying, "This is my opinion." If this really be the law as established for transactions of valuation conducted by auctioneers and "estate surveyors," it looks very like nothing less than a declaration that they are a hopelessly unscientific class, and we may at least take credit for its being generally the custom of architects as "building surveyors" to conduct their business of valuing in a different and more genial manner. But, whether this reading of the law be quite correct or not, it cannot be denied that certain methods which are in vogue appear to give rise to the doctrine plainly enough; and sometimes prejudicially enough—for all service of a judicial character that is not perfectly open and above-board must be in its very nature prejudicial to justice. As no less an authority than the Attorney-General recently pointed out to the House of Commons, speaking from personal experience and with a covert indignation which he evidently felt was completely wasted, there is well known to be a body of "valuers" whose business it is to "swear a thing up to-day, and swear it down to-morrow," and amongst whom "the arbitrator in one case is witness in the next, and the witness in the one arbitrator in the other." Now, it is only human nature if such a state of things produces both laxity of administration and liberality of costs; and the objection to arbitrations that the expense is excessive is not to be wondered at if such a tale as the following can be true. There is some simple question, say, between landlord and tenant. Mr. A. is employed to "value" for the landlord. He goes to the place and "has a look round," taking with him a silent assistant. A few days after, this assistant, now called his "representative," appears again alone, and makes a private calculation of his own. In due time this becomes the declared "valuation" of the principal (call it No. 1), stated, however, only in gross, the detail being a profound secret of the office. Meanwhile, Mr. B., who has been employed by the other side, goes to the place and has a look round with his silent assistant, who appears again as his representative, and makes a private calculation No. 2. Mr. A. and Mr. B. then make a hasty comparison of their "valuations," and they are found to differ. An umpire, Mr. C., therefore pays a visit in his turn, and has a look round with his silent assistant, who appears again as his representative, and makes a private calculation No. 3. This, without any explanation, becomes the formal "award," to be "taken up" at a solicitor's office by either side, but only on payment of the "costs," amounting to a sum which is generally somewhat unexpected, but is irresistibly accounted for as being "awarded" by the umpire—in his "discretion"—to be paid to himself; the two others having to be paid privately, but of course on a scarcely less generous scale. No doubt all this could not have been managed with less trouble (to the valuers); and if the parties are dissatisfied, that is only an instance of human weakness. It sometimes may occur, however, to uninitiated business persons that the whole transaction might have been quite as well managed—the profane may even say a great deal better—and at a fraction of the cost, if the two valuers had in the first instance met personally on the spot and settled the matter offhand; or, if a settlement could not be so accomplished, had attended again with their umpire and discussed their difference before him without any fuss. The answer is simple and well known: "That is not the way surveyors do it." Perhaps this is the reason why lawyers advise the appointment of a single arbitrator rather than two—meaning the "umpire" at first rather than at the last. To some plain people it will also appear that it is of the very essence of an expert reference that a referee, selected on purely personal grounds, shall not delegate his duty to an unknown cheap assistant, or conceal his reasons, or evade accounting for his charges, or, in short, in any way subordinate his judicial functions to his private profit, his private ease, or his protection from inquiry.

A good deal is said in the text of the Arbitration Act, and still more in the observations of the authors of this treatise, about the way in which the Courts of Law may be expected to rectify the mistakes of arbitration proceedings; but it may be affirmed at once that, in ordinary cases at any rate, the Courts are practically neither willing nor able to do anything to the purpose. It would seem as if artificially trained judicial minds are apt to consider, and very naturally so, that a private arrangement to prefer to their judgment that of an untrained, semi-civilised, makeshift tribunal, if it is to be recognised at all, becomes simply a convenient way of disposing of a certain undesirable class of disputes, undesirable not only on account of their concrete difficulty, but because of their intellectual insignificance. In other words, to be bothered about the awkward proceedings or blundering conclusions of a lay referee must be so particularly distasteful to a highly accomplished and busy judge on the bench, that it cannot be wondered at if his first and last impulse is simply to send the whole affair back again to the irregular adjudicator by way of a joke, with a brusque order that he shall reconsider it on his own level of intelligence, and, in short, go to Jericho with it; the only result of any practical kind being the payment by somebody of further and not inconsiderable bills of costs.

The special form of arbitration laid down in the London Building Act for work done to party-walls is well known. A "party-wall" being, of course, the joint property of two owners, held in a sort of compulsory partnership which gives to each partner "an undivided moiety" of every brick, it clearly follows that whenever either of them proposes to alter the partnership property, he must submit his proposal to the other. To meet the possibilities of dispute in such circumstances—and in express recognition of the desirableness of dealing with those possibilities in a practical manner—the rule has long been established by law that a special tribunal of arbitration, composed of "surveyors" (meaning building experts, usually architects, and obviously not lawyers), shall be created for the occasion, endowed with all convenient authority. Now there is a peculiarity about the constitution of this tribunal which ought to be regarded with particular attention. Each of the "parties" appoints his "surveyor," and the two surveyors appoint a third; but this third is not the customary "umpire," his designation in the Act is "the third surveyor," and the award has to be made, not by him as supreme, but by any two of the three as equals. That this plan had proved satisfactory under the Act of 1855 was expressly evidenced by the fact that when the London County Council (or their legal draughtsman), in preparing the Bill for the new Act of 1894, substituted the common arrangement of umpirage, a simple representation of professional objection induced the immediate restoration of the other system. The advantages which must attach to this system in party-wall cases are easily perceived; but a more interesting question with us on the present occasion is whether it is not the most advantageous mode of procedure for almost all of our building references, if not indeed for almost all others in which the conditions are similar. There is, on the face of it, a substitution of the character of a friendly conference for that of a hostile contest; a free comparison of opinions takes the place of disingenuous examination and cross-examination; legal formalities and artifices disappear, with their mental reservations, ambiguities, and inferential fallacies. The graces of conciliation readily come in, and the conveniences of compromise; and in the result, instead of one side being technically altogether right and the other conventionally altogether wrong, it may turn out that both are right enough or both wrong enough for a settlement, if they will agree to be well advised. Of course there may be advanced perfectly valid reasons for a contrary opinion, and it seems to be the fact (as already mentioned) that amongst lawyers the employment of even two arbitrators, to say nothing of three, is considered to be unadvisable, it being always best, they say, to agree upon one. This doctrine is apparently based upon the desire to obtain what is called finality of decision. But it is usually found that such finality is largely due to the great pains that a single referee notoriously takes to protect himself by concealing or even disguising what is passing in his mind; and how far this practice is conducive either to a thorough comprehension of facts or to the economising of costs is a question that need scarcely be asked. On the other hand, the notion that to have three referees must involve a treble expense is quite a fallacy; for two of the three only take the place of the two leading witnesses who are otherwise necessary; besides that the attendance of supplementary witnesses of opinion may then be dispensed with.

The question of the costs of an arbitration is one that is of great, and in these days perhaps increasing, moment. That an arbitrator should be able to charge as much as he pleases without any previous understanding, to present no reckoning, and to retain the award as a secret judgment until his demand is paid, seems on the face of it to be a most unpleasant abuse of the confidence that has been placed in him, and a fatal degradation of his office. Some professional men who are much employed as referees make a point of mentioning their scale of charges at the outset, which is obviously the proper course; but there is a general impression that, when no such arrangement is made at the beginning, the "discretion" of the arbitrator covers a despotic right to pay himself too well at the end, and to evade criticism by refusing all particulars. Our authors tell us that "where the arbitrator fixes the amount of the costs of the award in the award itself" (seemingly a very easy artifice) "his fees will not be liable to taxation unless they are so unreasonable in amount as to constitute misconduct"—but that "when an unreasonable amount is charged, and a party pays it under the *quasi*-compulsion of the award being withheld, the excess may be recovered back." Moreover, we learn that when one party, having taken up the award, has to receive costs from the other, "he cannot compel the other party to pay the excess." Thus by a roundabout way an overcharging arbitrator may sometimes be made to submit to taxation.

Returning, in conclusion, to the relations between architect and contractor, it becomes quite clear that every well-meaning architect will allow his builder to protect himself carefully against the risk of collision with a species of authority which the law regards as being primarily so very absolute. Perhaps it is that the old-fashioned conditions of mutual confidence are disappearing. Certainly in many other kinds of transactions sharp practice is in these days unfortunately extending its influence. It is to be hoped that the architectural profession at large may never part with those characteristics which have hitherto secured the exceptional confidence of builders. Nevertheless, as times change, we change with them; and where in other days a contractor could rely upon reputation, it may be necessary for him now to fall back on the rule of "safe bind, safe find." The "arbitration clause" must therefore be an accepted institution, and, what becomes of even more moment, the arbitrator must be judiciously chosen. The common saying, "I don't care who he is, I will leave it to anybody," is simply nonsensical. The judges of our Law Courts are carefully selected men; arbitrators in such a business as building ought to be carefully selected too, and, if possible, with special reference to the particular nature of the more probable disputes. Indeed, it is always safest to leave the nomination of an arbitrator until the nature of the questions at issue has become clearly developed, and then to select some one who is specially qualified to deal with questions of that class; or to agree upon some official person who shall make the appointment on that basis when the time comes.

Why should not the Royal Institute make official provision for the business of Architectural Arbitration? Even the establishment of a special examination and certificate might be of the greatest service, to the next generation if not to the present. Not so long ago it used to be remarked that the leading referees in London property cases, even in "valuation" by name, were almost all trained architects—such as Pownall, Clutton, Tite, Shaw, Lee, Clifton; now they seem to be estate agents, trained in a very different school, and certainly not a better.

FIFTY YEARS OF ARCHITECTURAL DRAUGHTSMANSHIP.

By R. Shekleton Balfour [*A.*],

Inst. Medallist 1892, *Pugin Student* 1894, *Tite Prizeman* 1895, *Soane Medallist* 1896.

SELDOM, perhaps, has a collection of architectural drawings and designs been brought together combining more wide and educative interest than that which has lately been on view at the rooms of the Institute, in connection with the celebrations marking the completion of the semi-centenary of the active existence of the London Architectural Association. The admirable arrangement of this exhibition in chronological sequence on the various screens enabled us to grasp with clearness and facility, not only the evolution of present-day draughtsmanship, and the individual influences responsible for this evolution, but also to follow in more subtle fashion all the strange phases of alternating admiration and unpopularity which have been formulated in the inconstancy of architectural fashions during the last fifty years.

While the primary object which the Committee of the Architectural Association had in view was to illustrate the progress of draughtsmanship during this sentient period of architectural life, it seems at the same time scarcely possible to avoid altogether commenting on the infinitely wider recognition of the intrinsic merits of the various styles, which is, perhaps, the most predominant characteristic of architecture at the present day.

Only three decades ago it would have been no easy task to discover, within the sketch-books of any particular student, a drawing of some feature alien to the style of his adoption. Now, every zealous disciple of the Architectural Muse, without, I venture to think, any exception, will be found to accept, and therefore in some degree to realise and appreciate, the varied charms, not only of each individual style, but of each period of transition also. Let us, for instance, take the five most interesting sketch-books of the late Sir Gilbert Scott, which had been lent. We shall find in them not merely a collection of bits of detail and composition, but also what is practically a pictorial itinerary, indicating the extent and selective nature of his travels, and the vigilant and constant readiness of his pencil. Yet we may search these books in vain for the semblance of a classic moulding. Nay, even more, his eye was so single that there is little corroborative evidence in them even of sympathy with work of any other date than the exact type with which his name will always be associated.

Nowadays our note books are a medley of jottings of all sorts and of all dates of work; we admire them all, or each in turn; and though at the present time we may lean towards the work of post-reformation days, we are none the less equally ready to love and admire all that preceded it. Doubtless this is attributable to our increased possibilities in the study of a wider field of architectural literature, and to the enhanced opportunities for travel and sketching which fall to the lot of the fortunate student in these latter days.

A careful examination of the exhibition also reveals the greater thoroughness which obtains in our drawings now. Thirty or forty years ago it was the *effect* produced by detail which was aimed at in the sketch-book. Now we go more to the root of the matter to try and discover *how* the effect was produced. Formerly the measured drawing was not so largely in vogue as it is now, and the details of mouldings and enrichments were sketched to a small scale, with perhaps a few added dimensions at the side. Now our tendency is rather to reverse this process, and we draw our work out to scale on the spot, and persevere in making full-size drawings of all intricate and important portions. The perspective sketch is no longer the approved method to be followed on our sketching tours, for we have learned that a good draughtsman, unintentionally perhaps, renders any composition in some degree pleasant by his skilled pictorial representation; while the measured drawing, no matter how cleverly it may be executed, cannot mask either bad proportion or composition, which may perhaps be existent in the original. Further, since we usually design in plan and elevation, no mere sketch is sufficient to enable us to introduce into our designs those effects which we are desirous of transferring from old work.

The students' drawings of the last few years also tend to embody a paradoxical combination of slightness and elaboration; an amplitude of full-size details, coupled with an explanatory key-drawing of the whole for their elucidation. But in this we have the gist of the whole subject, a method surely preferable to the older one of filling in and completing the drawing with more or less accuracy, according to whatever the scale may be in which we are working.

It is futile even briefly to notice, individually, more than a few of the numerous drawings which have been lent; and in singling out for remark the few, the many must of necessity appear to be passed over, though they may in reality have an equal claim on our attention.

It is the older drawings, perhaps, that are more particularly worthy of inspection, for it is on the foundation of their experience that we have built up our present school of draughtsmanship, and also because they are the work of men who have since attained leading positions in their profession, and whose juxtaposition on the various screens relieves the exhibition of any of that monotony which is so frequently apparent in collections of the kind. It was fifty-two years ago when one of the earliest drawings shown in the exhibition was made. This is an elaborately inked-in water-colour drawing of a church porch, by Mr. J. K. Colling, which serves to illustrate the remarkable, though somewhat laboured, effort which was so frequently relied on in those days for effect. In quite a different vein, however, are the contributions of Mr. Alfred Waterhouse, R.A. Here are three quite delightful drawings evidently made on a sketching tour in 1853. These little pictures (they well merit the name) are on tinted paper, and are chiefly executed in sepia and cobalt, with touches of body-colour. The natural adaptability of such subjects for illustration as the entrance to the Doge's Palace or the outside staircase at the Palazzo-del-Capitano at Modena is largely enhanced by the skill with which they are treated, architecturally as well as pictorially. Mr. J. P. Seddon's drawings also show us that *æsthetic quality* was not altogether eclipsed in those days, when many of us were accustomed to imagine that architecture was divorced from its artistic pictorial representation.

Professor Aitchison's carefully drawn and coloured representation of a portion of the colour decoration of the Villa Madama, near Rome, is one of the earliest pieces of measured work shown. This drawing is characterised by great delicacy and refinement, and the colouring is realistic, though doubtless, had it been executed within the last decade, it would have been attacked with greater strength and virility of line and consideration for combined harmony of tone, rather than the individual exactitude of each tint in the original. Mr. Aitchison also lends several other measured drawings and water-colour sketches of interest.

How great is the contrast between these drawings and the adjacent ones of the late W. Burges, A.R.A., which are distinguished by a boldness and originality which even our most advanced draughtsmen might hesitate to commit themselves to nowadays. They are pregnant with the character of their author, whose resource and humour strikingly display themselves either in his well-known Mediæval-looking drawing of a design for a fountain, his quaintly written note on a sketch of colour decoration for organ pipes, or in the numerous comic and sentimental leaves culled from his sketch-books, whose contents evidently were not entirely architectural.

In Mr. C. Forster Hayward's set of drawings we find some among them pioneers of the methods now approved by the candidates for the Pugin Studentship.

Passing on to the next decade, we have Mr. G. Edmund Street's very fine pen-and-ink drawing of a cathedral porch, an excellent example of his bold style of work, clear and distinct, and drawn in a good line.

Next we are confronted by Mr. T. Allom's designs for Manchester Town Hall, a very interesting set of sepia-tinted elevations, with foreground and sky put in. These clever drawings delicately convey the effect of the Gothic design they portray ; but one cannot help wondering what chance such as these would have among the strong competition drawings of the present time, when startling effects vividly portrayed are thought more likely to compel the attention of an assessor than delicate drawing and somewhat nebulous design. There is a large and varied selection of the work of Mr. E. J. Tarver, including designs for furniture in the mid-nineteenth century type of Gothic, which show great fertility of conception.

Mr. R. Phenè Spiers also is a prominent exhibitor, and lends, in addition to his fine water-colour views of the Parthenon, among others, a very impressionist coloured elevation of an entrance archway to a triumphal bridge, a design of colour decoration for a staircase, and a carefully tinted drawing of the pulpit in St. Stephen's, Walbrook, measured as part of his work for the Royal Academy Silver Medal. In this decade also were a couple of charming little sketches by Mr. John Belcher; and Mr. H. L. Florence lent the large tinted elevation of his Royal Academy Gold Medal design 1869.

On the screens, dated 1870–80, were to be found the first examples of the measured drawing as we understand it now, notably Mr. Leonard Stokes's fine drawing of the arcading in the Lady Chapel, Ely Cathedral. This drawing is inked in brown, carefully and feelingly, and with a fine regard for and appreciation of his subject. Among Mr. W. Millard's contributions there was a very delightful little drawing of the west doorway, Cley Church, Norfolk, done in a most pleasing manner. Mr. F. Baggallay lent a good water-colour drawing of the Bargello staircase at Florence; and Mr. Aston Webb contributed a masterly sketch of the Porch at Chartres, made in 1875, a pencil drawing in the thin, clear, conscientious line, which only within the last two or three years has commanded all our sympathies, to the detriment of the pale-line and black-dot school which up to that time was chiefly popular among students.

There was a large amount of most interesting work shown illustrating the next decade, viz., 1880–90, and among the more prominent drawings were those of Mr. Francis Hooper of the fine piece of half-timber work at Rufford Old Hall, Mr. Needham Wilson's well-known sketch of the Porch of St. Trophime, Arles—an altogether charming drawing—and fine examples of the work of Messrs. Gerald C. Horsley, A. N. Paterson, W. A. Pite, and R. W. Schultz.

Mr. Alfred H. Hart showed an excellent measured drawing of the screen in the Chantry of Henry V., Westminster Abbey, and Mr. A. T. Bolton a large full-size coloured drawing of the mosaic head of Pomona, recently discovered at the excavations at Cirencester. Both these drawings indicate the thorough and persistent character of the work which is now considered indispensable as a means of educational development.

Among the designs were two which cannot fail to claim attention. The first of these was Mr. Beresford Pite's highly characteristic elevation of his design, which carried off the Soane Medallion in 1882, surely one of the most original efforts which have ever attained success before the Prizes Committee of the Royal Institute. The other was Mr. H. W. Brewer's beautiful drawing, entitled "Deserted," evidently an idealised view of some Mediæval German plague-stricken city. This is a masterpiece, not merely of architectural draughtsmanship, but also of architectural grouping and composition, and, in addition, combines with those qualities that distinctive sentiment which renders a drawing agreeable to the public at large.

The closing decade of the century was, as might be expected, more fully represented than any other, and presented a diversity of style and variety of subject which strongly attest the cosmopolitan taste of to-day. The representative selection of drawings of our cathedrals, lent by *The Builder*, gave us, on an equal footing, specimens of the works of such draughtsmen as Messrs. J. Begg, W. H. Bidlake, T. Maclaren, C. E. Mallows, and A. B. Mitchell, which cannot be otherwise than instructive.

Mr. H. V. Lanchester gave us a delightful bit of coloured work in his "Part of the Front of the Mosque at Cordoba," a drawing which shows a rare feeling for his subject; and Mr. A. H. Hart, likewise, in his water-colour of the Tower at Verona, demonstrates that atmosphere and local tradition need not of necessity be lost sight of altogether in an architect's portrayal of architecture.

Of this period were also excellent drawings, among others, by Messrs. C. C. Brewer, H. C. Corlette, Owen Fleming, and E. A. Rickards, names which are a guarantee that the Architectural Association at the present day, as it did half a century ago, can claim among its members draughtsmen whose work fifty years hence will be as fully representative of their time as any that is shown in the exhibition.

9, Conduit Street, London, W., 17*th June* 1897.

CHRONICLE.

The Special Examination for Associateship.

As the existence of this Examination seems not to have been made sufficiently public, and consequently is not very widely known, it appears desirable to direct to it the attention of readers of the Journal. The Examination is held in the interests of "Architects in practice not less than twenty-five years of age, and chief assistants over thirty years of age, who desire to be Associates." Candidates are exempted by a resolution of the Council from the Preliminary and Intermediate Examinations, and, on certain probationary work being submitted and approved (except in the case of an architect who has been in active practice previous to the 1st January 1885), are admitted to the Final Examination. Full particulars are given in the Kalendar, p. 265. It would greatly further the interests of the General Body if Allied Societies could take such steps as to bring this Examination prominently under the notice of their members who are not also members of the Royal Institute.

THE ANNUAL ELECTIONS.

THE COUNCIL.

At the Business General Meeting of Monday, 14th inst., the Council for the year of office 1897–98 were declared to be duly elected as follows:—

President.—Professor Aitchison, A.R.A.

Vice-Presidents.—William Milner Fawcett, M.A.Cantab., F.S.A.; Henry Louis Florence; Ernest George; and Edward Augustus Gruning.

Hon. Secretary.—William Emerson.

Members of Council.—John Belcher; Thomas Blashill; James Brooks; John McKean Brydon; William Douglas Caröe, M.A.Cantab, F.S.A.; Thomas William Cutler; Campbell Douglas (Glasgow); John Alfred Gotch, F.S.A. (Kettering); Alexander Graham, F.S.A.; Charles Hadfield (Sheffield); Benjamin Ingelow; Edward William Mountford; John Slater, B.A.Lond.; Richard Phenè Spiers, F.S.A.; Henry Heathcote Statham; Paul Waterhouse, M.A.Oxon.; Aston Webb, F.S.A.; and Ralph Selden Wornum.

Associate-Members of Council.—Edward Guy Dawber and Arthur Smyth Flower, M.A. Oxon., F.S.A.

Representatives of Allied Societies.—William Larkins Bernard (Bristol Society); Albert Nelson Bromley (Nottingham Society); Thomas Drew, R.H.A. (Royal Institute of Ireland); John Ely (Manchester Society); Leslie Ower (Dundee Institute); Henry Perkin (York Society); Arnold Thorne (Devon and Exeter Society); and Edwin Montgomery Bruce Vaughan (Cardiff, South Wales, and Monmouthshire Society).

Representative of the Architectural Association (London).—Hampden William Pratt.

THE STANDING COMMITTEES.

At the same Meeting the following Fellows and Associates were declared duly elected to serve on the respective Standing Committees for the ensuing year of office, viz.:—

ART STANDING COMMITTEE.

Fellows.—John Macvicar Anderson; John Belcher; James Brooks; John McKean Brydon; William Douglas Caröe, M.A.Cantab., F.S.A.; Ernest George; Edward William Mountford; Beresford Pite; Alfred Waterhouse, R.A.; and William Young.

Associates.—Robert Shekleton Balfour; Edward Guy Dawber; Owen Fleming; James Sivewright Gibson; Henry Thomas Hare; and John William Simpson.

LITERATURE STANDING COMMITTEE.

Fellows.—Henry Louis Florence; Alexander Graham, F.S.A.; Benjamin Ingelow; John Tavenor Perry; William Alfred Pite; Sydney Smirke; Richard Phenè Spiers, F.S.A.; Charles Harrison Townsend; William Frederick Unsworth; and Paul Waterhouse, M.A.Oxon.

Associates.—Arthur Thomas Bolton; Arthur Smyth Flower, M.A.Oxon., F.S.A.; Andrew Noble Prentice; Ravenscroft Elsey Smith; Leslie Waterhouse, M.A.Cantab.; and Percy Scott Worthington, M.A.Oxon.

PRACTICE STANDING COMMITTEE.

Thomas Batterbury; Henry Cowell Boyes; Samuel Flint Clarkson; Edwin Thomas Hall; Thomas Harris; Alexander Henry Kersey; Joseph Douglass Mathews; Walter Hilton Nash; Lacy William Ridge; and Edmund Woodthorpe, M.A.Oxon.

Associates.—William H. Atkin-Berry; Francis Thos. Wilberforce Goldsmith; Frederick Henry Appleton Hardcastle; Henry Thomas Hare; George Richards Julian; and Augustus William Tanner.

SCIENCE STANDING COMMITTEE.

Fellows.—Lewis Angell, M.Inst.C.E.; Frederic Richard Farrow; John Salmon Quilter; Herbert Duncan Searles-Wood; William Howard Seth-

Smith; Percival Gordon Smith; Lewis Solomon; William Charles Street, Assoc.Inst.C.E.; Benjamin Tabberer; and Keith Downes Young.

Associates.—Henry William Burrows; Max Clarke; Robert Langton Cole; Bernard John Dicksee; Matthew Garbutt, Assoc.-M.Inst.C.E.; and George Pearson.

The late Charles John Phipps [*F.*].

Mr. Rashleigh Phipps has kindly furnished the following particulars of the professional career of his father, Mr. C. J. Phipps, whose death occurred on the 25th ult.:—

Charles John Phipps was born at Lansdowne, near Bath, in the year 1835. He was articled to Messrs. Wilcox & Fuller, architects, of Bath, and remained in their office till June 1857. After travelling for a year abroad he commenced practice as an architect at Bath. In 1862 he successfully competed for the design of the new theatre in that city, which was opened in March 1863. This theatre having proved successful, other works of a similar kind followed, and Mr. Phipps soon found that it was obviously in his interest to remove his practice to London. This accordingly he did, and for many years was engaged both in London and the provinces in building new theatres and remodelling old ones, besides carrying out many other works of a varied description. Mr. Phipps held the appointment of architect to the Committee of Drury Lane Theatre until the expiration of their lease. He had on several occasions been applied to by the Government to give evidence before the Committees of the House of Commons, especially in reference to theatres. Of his recent works, the new buildings now in course of erection in the Haymarket rank as the most important. Her Majesty's Theatre was opened on 28th April, and the Carlton Hotel, which is being built on the remaining part of the site, is making rapid progress. Among the many buildings which he has erected are the following: the Queen's, Long Acre; the Gaiety, the Vaudeville, the Strand, Sadlers Wells, the Variety, Hoxton; the Savoy, the Princess's, the Prince of Wales's, the Shaftesbury, 1888; the Lyric, 1889; Hengler's Cirque (recently altered by Mr. Phipps into the National Skating Palace), the Theatre of the Lyric Club, internal reconstruction of Lyceum, Comedy, St. James's, and Globe Theatres, the Queen's Hall (jointly with Mr. Knightley), and numerous theatres in the chief cities of the provinces, and in Scotland and Ireland. Among public buildings, other than theatres and concert halls, erected from his designs are: the Devonshire Club, the Lyric Club, Gaiety Restaurant, Strand; Star Life Assurance Society, 30 and 32, Moorgate Street, E.C.; Star and Garter Hotel New Pavilion, Richmond; offices for *The Observer* newspaper, Strand; the Savoy Turkish Baths, Savoy Street, Strand. Mr. Phipps became an Associate of the Institute in 1860, and a Fellow in 1866. He served upon the Council during the years 1875–76. He was also a Fellow of the Society of Antiquaries.

The late George Orrell [*A.*].

George Orrell, the son of the late Mr. Oliver Orrell, contractor, of Darwen, was born on 18th June 1867. He served his articles with Mr. Bertwistle, architect, of Blackburn, and was appointed to H.M. Office of Works on 1st May 1891 as an assistant-surveyor to Mr. John Taylor, C.B., in whose department he remained for the last six years of his life. His death, which occurred on the 10th ult., was the result of rapid consumption. Sadly enough, he had only been married about a month before. During his six years' service in H.M. Office of Works he assisted in the general work of the office, including the superintendence of large Government buildings in London. Mr. Orrell was elected an Associate in 1889.

The late J. J. Cole.

The Institute is indebted to Mr. Thos. Blashill [*F.*] for the following obituary notice:—

By the death, on 10th May, of John Jenkins Cole, F.R.A.S., of the Stock Exchange, one of the earlier Fellows of the Institute, which he joined in 1848, we have lost one who, while avoiding the ordinary means by which an architect may become known, achieved a reputation unique in its kind.

Born in 1815, at Devonport, the son of a solicitor who was well known as an antiquary, he was educated there, and afterwards at the Merchant Taylors' School, which he left at the age of sixteen. For two years he applied himself to the law under his father, who was then settled in London; but his taste soon led him towards architecture, which he studied under Mr. Alfred Ainger. In 1834 he was assisting Mr. Butler on plans for the enlargement of the old Houses of Parliament, and next spent a year in the practical study of masonry and carving and the technicalities of building work, completing his student career without the aid of foreign travel. In 1836 he drew Star Chamber, Westminster, for Weale's *Elizabethan Architecture*, and, having met Mr. (afterwards Sir Charles) Barry, assisted him in adapting competition designs for the new Houses of Parliament to the site. In his diary he writes: "I esteem it a great privilege to have worked under the constant and direct supervision of such a mind as Barry's"; and Barry's influence is noticeable throughout the work of his life. From 1837 he was assisting various architects, chiefly Mr. Rogers, for whom he worked twelve years, while clients of the quality essential to his methods of practice were finding their way to his door.

About 1846 he began his long connection with Throgmorton Street by altering the offices of

Messrs. Capel & Norbury, which he shortly afterwards rebuilt. A little later he designed schools at Kempsey, Worcestershire, in the Tudor style for Mr. Capel, and a church in the style of the thirteenth century at Abberley. In 1858, and for many years, he was carrying out work at Amesbury Abbey for Sir Edmund Antrobus, whose house, 146, Piccadilly, designed in 1863, in the Italian style, is among his more characteristic works.

In 1855 he had been elected architect to the Stock Exchange, and in 1860, 1872, and again in 1874, he carried out important works connected with their old house. From 1882 to 1888 he was constructing the new house, with office buildings fronting on Old Broad Street and Throgmorton Street, at a cost of £150,000. In 1872 he designed Messrs. Mabey's restaurant and offices, between the Stock Exchange buildings in Throgmorton Street. In 1874 he began his great building for the Gresham Assurance Company on the site of St. Mildred's, Poultry, which cost £80,000. These were his chief works.

He attempted no striking originality in general design, but nothing could exceed his laboriousness in matters of planning, materials, and details. He drew everything—large and small—with a hairline; the profiles of his mouldings, more Greek than Roman, were his own, and were not influenced by cheapness of cutting or polishing. Every item of such work, placed never so far from the eye, had to stand his critical personal examination. He held that, in our narrow streets, ornament should be placed on reveals and soffits where it may be seen in passing, rather than on the outer face which few people observe. His foundations went down through the historic strata into the geological, with basement under basement and cellar under these. His construction was massive and, where possible, monolithic. He was almost the first to use polished granite in the City, making it carry the superstructure, supplementing it with the rarest antique marbles and blocks of Devonshire, specimens as to size. Where another architect would have laid on his more precious materials in thin slabs, he used them as solid ashlar. His polished facings went through the walls. He detested veneer, but when, in the adaptation of the old House at the Stock Exchange, his newer work had brought out the meanness of the adjacent plaster, thin slabs of the precious rose-tinted Giallo-Antico were applied in its place.

It is nobody's fault that the stranger, looking for the Bourse of the first commercial city in the world, is shown a row of Italian Palazzi, or that the interior wherein he showed his skill in planning, and his power to combine old and new into one richly effective whole, has to be jealously guarded from public view. These points may be seen by an illustration in *The Builder* of 8th October, 1887, and in the Institute JOURNAL of 1894. There are, no doubt, among the busy throng that there assembles, those who appreciate the effect. Mr. Cole's private clients spoke of their architect with affectionate regard, entering into the spirit of his extravagance and laughing over the cost. Of the many architects who came in contact with him through his great operations, those who struggled with him found a difficult antagonist; but to those who approached him in the honourable and straightforward spirit for which he was distinguished, he was the kind and courteous gentleman seeking to act as an umpire might do, and ready to assist them in every way.

He was much interested in the preservation of Stonehenge, which is upon the property of his client at Amesbury. His favourite pursuits outside his profession were geology and astronomy; and the house which he built for himself at Sutton, in Surrey, included an observatory, where he was one of the very few who saw the transit of Mercury in 1882. He was an excellent photographer, using his camera chiefly in relation to architecture and geology. He virtually retired from the profession in 1890, his son, Mr. R. Langton Cole, succeeding him at the Stock Exchange, to which he was appointed consulting architect. He did not long take an active part in the work of the Institute, though he was a member of the Council in 1855–56. He retired from the Institute in 1890.

Proposed International Central Laboratory.

The Iron and Steel Institute are issuing a circular in which they solicit subscriptions towards the establishment of a Central Laboratory, recommended by the International Society for the Unification of the Methods of Testing Materials of Construction. It is proposed to establish this Central Laboratory at Zürich, inconveniences possibly arising from international jealousies thus being avoided, and Herr Hans von Jüptner, chief chemist of the Neuberg Iron and Steel Works in Austria, has been chosen as the head of the new institution. Such a laboratory will do invaluable work, and it is to be hoped that the promoters will obtain the £2,000 a year the assurance of which is necessary for this undertaking.

REVIEWS. LV.

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BEAUTY AND ART.

Beauty and Art. By Aldam Heaton. 8o. Lond. 1897. Price 6s. [*Wm. Heinemann, 21, Bedford Street, W.C.*]

This is a volume in which Mr. Aldam Heaton has brought together five essays written within the last few years. The last article may be known to some readers as forming the preface to the large work recently published under Mr. Heaton's editorship by Messrs. Bumpus, and consisting of reproductions of furniture designs by Chippendale, Adam, Sheraton, and others. The author here quite makes good his point that it is owing to the French influence of such men as Androuet that the work of the first of these three designers came to be possible. He, like Molière, "prenait ses biens où il les trouvait," and many of the *motifs* that are supposed to be distinctly characteristic of the style known by his name may be found to be either based upon, or copied from, the work of Androuet, Berain, and Marot. The taste shown by Chippendale in his inclusion in the work by which he is principally known of many "preposterous, impossible, and outrageous" drawings of furniture in the "Chinese" and the "Gothic" styles shows him to have been rather the seller, whose main idea was the fashion of the hour, than the craftsman and the artist with a standard of the right and the proper. To call him, however, as Mr. Heaton does (p. 126), "as ignorant and pretentious a fellow as ever hawked his wares" is hardly reconcilable with the assurance on the same page that the copying of works by this maker is "greatly to the general advantage."

Much of what the author has to say in his five articles was evidently written some years ago, and before the last Arts and Crafts Exhibition, for instance, had shown that, try as they may, those dealing with the various arts of design cannot succeed in "cutting," as he says, "the well-anchored and safe cable of Tradition." Nothing is clearer than that, excluding a few, a very few, works proceeding from the members of eccentric

> "Sect whose chief devotion lies
> In odd perverse antipathies,"

the remaining exhibits indicated that the link with the past was too strong to be broken. They showed, indeed, that success was obtained just in proportion as the designs reconciled the conditions of to-day with sufficient reference to Tradition to avoid the charge of being ignorantly self-sufficient. As the author himself says (p. 99), "no craftsman in this world ever sprung by a stride into what was at once novel and good." And though "dans l'Art, mes enfants," says Verlaine, "c'est d'être absolument soi-même," we cannot even when thus ourselves escape being the "guests of the ages" fed from the scraps that fall from the table of old Tradition.

It is not altogether a matter of words; for though Mr. Heaton and the young men he runs atilt against in his preface and in his second article both recognise Tradition as a factor in design, the latter would probably claim that they of the two take a surer, truer step in that path of Evolution in which Art, as the author says, must needs march. Tradition, of course, is not copyism—either of Chippendale chairs (p. 126) or of anything else.

Thus a catholic appreciation of the lesson of past work would not dismiss the whole of the wonderful world of Japanese Art with Mr. Heaton's remark that "it is a little difficult to discuss it with patience and reasonableness." As a notable Frenchman says, "You should have preferences, but no exclusions." The measure of an artist's right to properly so describe himself is stated (p. 112) to be the power by which he has or has not "accurately delineated things." Thus tested, the Japanese designer fails to reach the author's standard; a conclusion rendered all the more quaint from the fact that it seems to most of us to be just in the characteristics of good "drawing" and "accurate delineation" that the artists of Japan excel. And only a little less logical is the lament that it is impossible to find a Japanese design "which readily arrived at a good repeat"!

Finally, and by the way, the second and fourth of these papers would appear, from a fly-leaf note, to have been delivered before a body there described as "the Architectural Institute of London." The name is new to the present writer—and perhaps to others.

C. Harrison Townsend.

THE MAGNETIC DIP OF ANCIENT TERRA-COTTAS.

By the Cavaliere GIACOMO BONI [*Hon. Corr. M.*].

The dip of a loadstone or magnetised needle was observed by George Hartmann, of Nuremberg, more than three centuries and a half ago, and was commented upon by him in a letter, dated 4th March 1544, to the Duke Albrecht of Prussia. The prototype of the modern dipping needle was constructed in the year 1576 by Robert Norman, and some measurements were taken with it by Gilbert of Colchester (1540–1603), the "Galileo of magnetism."

It is well known that the loadstone can transmit to iron with which it comes in contact a permanent property like its own, and that the earth itself, as a larger loadstone, produces the same effect; so that, by placing a non-magnetic bar of soft iron in the line of the magnetic meridian, with its axis in the direction of the earth's force (*i.e.* parallel to the line of dip), it will be magnetised inductively, in such a way that its lower end becomes a north pole, and its upper end a south pole. Usually a certain proportion of the magnetism remains after the inducing force is removed.

The phenomenon of magnetisation is, however, not confined to iron, but becomes apparent in other materials of which it forms a very small constituent. One of these materials, the ferruginous silicate of alumina, happens to have been—both baked and unbaked—the most extensively used for architectural and domestic purposes, in the shape of bricks and pots.

The ferrous-ferric oxide, which constitutes the magnetic substance of baked clays, possesses a great coercitive force, very little inferior to that of steel, that is to say, the power to store up and preserve the magnetic conditions under which it was baked.

Among these magnetic conditions, the most important, from an historic or even prehistoric point of view, is the magnetic inclination or dip; because, as it slowly changes according to what we must assume to be a natural law, we have in terra-cotta a material giving us data to ascertain the age in which some of the objects made with it were baked, and the means to trace or follow the track of this law in prehistoric ages.

Towards the end of the seventeenth century, R. Boyle knew that terra-cottas were permanent loadstones, magnetised according to the direction of the terrestrial magnetism in the place and time they were baked. In the years 1862–63, Gherardi published in our magazine, *Il nuovo Cimento*, some results of his experiences on the polar magnetism of brickwork in Turin, and of Etruscan and Roman terra-cottas, and announced the principle that baked clays retain magnetism in the same direction in which they first conceived it, even for centuries after they were baked.

The subject has lately been resumed, and some interesting experiments were made by Dr. Folgheraiter, the clever assistant of the Physical Institute of the Roman University, who has extended his researches to many instances of brickwork of ancient buildings, palaces, temples, thermæ, and tombs of Rome and the Campagna, and ascertained that even volcanic rocks employed by Roman architects, such as tufa and lavas, in the primitive walls of Roma quadrata, in the basement stairs of the temple of Vesta in the Roman Forum, in the round temple at the Bocca della Verità, in the walls of Servius Tullius, in the Claudian aqueduct, in the Colosseum, &c., so well retain the primitive magnetic direction that in some cases it points exactly to inverted poles. We may here mention that Melloni, in examining the fragments of leucitophire and of other lavas employed in the amphitheatre of Pompeii, found them magnetised in every possible direction.

In order to familiarise himself with the subject, and to collect data regarding the way in which terrestrial magnetism became fixed in terra-cottas, Dr. Folgheraiter manufactured a series of clay cylinders of different sizes, and vases of different shapes, and had them baked in a vertical position and at different inclinations (see *Rendiconti della R. Accademia dei Lincei*, classe di Scienze, anno 1896). Then he applied the results of these investigations to some vases of the Etruscan epoch, which, judging from their shape, had been baked in a vertical position. In four terracotta *cistæ* (eighth century B.C.), preserved in the museum of the Villa Giulia, the south polarity was found prevalent round the base, and the north polarity at the top of the handle. *Oinochoai* of the same epoch gave the same results, which seem to prove that at the time and place where the vases were baked a magnetic needle would have dipped towards the south pole instead of the north one, as at present. The measurements made gave results which vary from 2° 29′ to 25° 37′, owing to the difficulty of making the corrections necessitated by the imperfections of the vases, and so could assign within very narrow limits the date of those vases, which from their peculiar shape had undoubtedly been baked in a vertical or otherwise determined position.

On the whole, the results of the investigations carried out at present on the history of magnetisation point to the necessity of experimenting on materials which do not leave any uncertainty as to the date, place, and position of their baking. A series of such materials ought to be offered by brick walls which have been subjected to fire, such as the Great Council Hall of the Ducal Palace in Venice, burnt A.D. 1577, and of a great many buildings which suffered from the same cause, including some ancient Roman, and possibly even some Assyrian ones. Volcanic eruptions of historical date may also give us the means of ascertaining the magnetic dip, which they have fixed and embodied in cooling down into hard stone, and that which they have caused the structures to assume with which they came into contact, as is the case at Herculaneum.

Although some of these investigations can be carried out in Italy, their nature requires them to be extended over the largest possible field, and to the utmost limits of historic age. For this reason I hope that the Royal Institute of British Architects, recognising the peculiar interest of the subject, and the possibility that some unhoped-for light may be thrown on the date of some important structures, or of the date at which the enemy destroyed them by fire, will ask its members to contribute a notice of such buildings that exhibit the magnetic dip produced at some period of their existence.

The cipollino columns of the Temple of Serapis at Pozzuoli have preserved for us a record of the geological changes of that territory. Let us hope that scientists may be able to point to some ancient monuments as historical archives of the law of terrestrial magnetism.

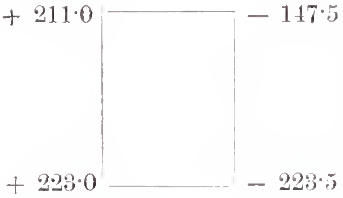
Note.—In studying the magnetism of terracotta vases, Dr. Folgheraiter has adopted the scheme of dividing into twelve parts the circumference of the base, and that of the mouth or upper rim of each vase (vases, be it understood, of symmetrical shape around a vertical axis at the moment of baking), and measuring the magnetism of each of these divisions of 30 degrees by means of a magnetic needle conveniently suspended and carrying a circular mirror, which serves for the reading of the variation by means of a theodolite.

The force of the positive and negative magnetism, the poles and the magnetic meridian of the vase being known, the magnetic inclination (dip) is deduced by calculating the resultant of the two vertical and horizontal components.

For instance, in subjecting to experiments a Greek amphora of the Museum of Florence, No. 1800 (about 650–500 B.C.), Dr. Folgheraiter read the following deviations:—

Around the base.	Around the upper edge (orlo).
+ 223·0	+ 211·0
178·0	179·0
121·5	130·0
8·0	44·5
− 119·5	− 66·5
215·0	134·5
223·5	147·5
190·5	118·0
147·5	74·0
1·0	+ 69·0
+ 149·5	155·0
+ 191·5	180·0

The maxima and minima of these numbers being considered to belong to the magnetic meridian of the amphora, the following diagram is obtained:—



the vertical component

$$= \frac{(223{\cdot}0 - 211{\cdot}0) - (-223{\cdot}5 + 147{\cdot}5)}{2}$$

$$= \frac{11 + 76}{2} = 43{\cdot}5\,;$$

the horizontal component

$$= \frac{223{\cdot}0 - (-223{\cdot}5) + 211 - (-147{\cdot}5)}{2}$$

$$= 402{\cdot}5\,;$$

the inclination of the magnetic force (dip)

$$= \text{arcotg.}\ \frac{43{\cdot}5}{402{\cdot}5} = 6^\circ\ 11'.$$

NOTES, QUERIES, AND REPLIES.

The Lotus Column.*

From Professor Flinders Petrie—

The explanation of the reticence of M. Foucart, on the evolution of the lotus column from mud and reed building, which he merely glanced at in his work, is due to the able author. It seems that he was not free to follow his own system, as his essay was a thesis for a degree, which he had to publicly discuss for a whole day before seven judges, to whom such subjects were a novelty in any case, and who would not readily have followed a hypothetical derivation, however obvious to a mind trained in the subject. Truly this was working in chains.

Trafalgar Square.

From Jno. Hebb [*F.*]—

Professor Aitchison's suggestion, made in the course of the discussion on Mr. H. H. Statham's Paper on the Government Offices, that Nelson's Column, Trafalgar Square, should be removed to Leicester Square, is an admirable one so far as it goes, but does not go far enough. The column, which is directly in the line of foot traffic, and, as the late Lord Leighton said of another misplaced monument, emphasises nothing, dwarfs and overshadows the buildings in the vicinity, and might be got rid of with advantage. The puzzle is to know why the column was placed where it stands; no architect could have placed it there, and it can only be conjectured that its position was determined by some former First Commissioner of Works and Buildings.

It is a matter for serious consideration whether the time has not arrived, not merely for the removal of Nelson's Column, but also for the obliteration from our Metropolis of the memorials of warfare. The principal square of Paris is named Place de la Concorde, a name which was given it during the Revolution, and which has been unchanged through successive dynasties, as the principal square of London is named after a victory obtained over a neighbouring, and now a friendly, nation, obtained three-quarters of a century ago, and is decorated with the unrecognisable effigy of a naval hero in a ridiculous position on the top of a huge column guarded by shapeless masses of bronze which are supposed to be emblematical of British valour and British indifference to art. This display is a relic of barbarism and should be abolished. We no longer set up the skulls of our enemies about our wigwams, nor do we hang their scalps around our waists as trophies of our prowess; and it is time we should cease to wound the susceptibilities of a proud and sensitive nation by this childish parade of our victories.

"However we may rejoice at the successes of our country," says Leigh Hunt in one of his letters, "war is at all times unreasonable to our judgments, and shocking to our hearts," and every right-minded man will endeavour to efface the recollection of warfare from his memory instead of endeavouring to perpetuate it.

In the year 1362 the Florentines bore away the massive chain which defended the entrance to the Porto Pisano at Pisa, and hung the chain in triumph in the Baptistery at Florence, where it remained until the year 1848—the year of revolution—when it was restored to the Pisans by decree of the Municipality of Florence, as is attested by the following inscription affixed to the wall of the

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* See Professor Petrie's review of Monsieur Foucart's *Histoire de l'Ordre Lotiforme*, *ante*, p. 361.

Campo Santo at Pisa, where the chain is now hung.

> Queste catene del Porto Pisano nel 1362 dai Genovesi rapite e donate ai Fiorentini, stettero per secoli appese in Firenze, trofeo di ira fraterna, con solenne voti di quel Commune nel 1848 restituite e per decreto del Municipio Pisano infisse nelle mura di questa splendide sede di tante glorie, siano augurio di amicizia e concordia tra le città Italiane, pegno e segnacolo d'una era novella.

Let us in a similar spirit remove Nelson's Column from its present position, together with Brummel's fat friend (who was certainly not present at Trafalgar, although he is said to have believed he was at Waterloo), the lumpy statues of Napier and Havelock, and the more graceful one of Gordon; abolish the fountains and the steps at the angles of the square, construct a wide flight of steps on the axis of the National Gallery leading from the terrace on the north side of the square, lay out the square as a garden, and rename the square after some benefactor of his country.

THE SPECIAL GENERAL MEETING.

The Fellows Question.

Pursuant to the notice issued to members convening a Special General Meeting to receive and consider the Report of the Council on the Election of Candidates for Fellowship, such Meeting duly assembled on the 31st May, the President, Professor Aitchison, A.R.A., being in the Chair. The Report to be considered was as follows:—

The attention of the Council having been drawn to the falling-off in the number of candidates for the Fellowship, pointedly alluded to in Mr. Penrose's Presidential Address of November 1895, they appointed in December 1895 a special Committee to consider and report on the whole subject. The Committee held numerous meetings, and obtained the views of the Allied Societies and of individual members of the Institute. The various suggestions were fully considered and discussed, and the Council now beg leave to submit to the General Body the following Resolutions numbered 1 to 10:—

1. That the proportion of one vote against, to two in favour, exclude from election, in place of one against, to four in favour, as at present.
2. That the form of voting-papers be altered, so that the names on the list voted against have to be crossed out.
3. That attention be called to the requirements of the Council as to the drawings, &c., to accompany an application for Fellowship.
4. That a circular be issued to all Associates who have been over ten years in that class, pointing out that, in the interests of the Institute, it is desirable that Associates who are eligible should come forward for election as Fellows.
5. That when the Council of the Institute receive a unanimous recommendation formally submitted by the Council of any Allied Society that a practising member of the profession in their district is eligible and worthy of being elected a Fellow, the Council shall have the power to elect him.
6. That power be given to the Council to admit annually to the Fellowship, without ballot, the President or President-elect of any or all of the Allied Societies who are eligible and apply for admission.
7. That it be recommended to the Council to dispense with the payment of an entrance fee in the case of non-Metropolitan Fellows during the pleasure of the Council.
8. That it be recommended to the Council to utilise the old Council-room on the first floor as a tea and smoking room, and that no books from the Institute Library be consulted therein with the exception of periodicals and the professional journals.
9. That it be recommended to the Council to consider the desirability of holding periodical conferences, meetings, and dinners, a certain proportion thereof to take place in the provinces, with a view to promoting more friendly intercourse with the Allied Societies.
10. That it be recommended to the Council that the Allied Societies be invited to arrange, when possible, the date of election of their officers and the duration of their Sessions, so as to correspond with those of the Institute.

In the event of the foregoing Resolutions being approved, it will be necessary to alter certain By-laws, and the Council now propose the necessary alteration in those By-laws as follows:—

> By-law 9. "One negative vote to two affirmative," *instead of* "one negative to four affirmative."

The following paragraph to be added thereto:—

> Provided always that when the Council of the Institute receive a unanimous recommendation formally submitted by the Council of any Allied Society that a practising member of the profession in their district is eligible and worthy of being elected a Fellow, the Council shall have power to elect him. The Council may also admit annually to the Fellowship, without ballot, the President or President-elect of any or all of the Allied Societies who may be eligible and apply for admission.

By-law 15, clause (*a*), to be added to as follows :—

> Provided always that the Council may, during their pleasure, dispense with the payment of an entrance fee in the case of non-Metropolitan Fellows.

Discussion.

The Report, copies of which had been sent to every member resident in the United Kingdom, having been formally presented and taken as read, Mr. Wm. Woodward [*A.*] asked whether, under section 28 of the Charter, Associates were entitled to vote on all the resolutions before the Meeting. The President replied that the section was explicit, and that Associates were free to vote on all matters except "in respect of the making and adopting, altering, revising, suspending, or rescinding of any by-law."

The Secretary, in reply to questions of which notice had been duly given by Mr. H. Hardwicke Langston [*A.*], stated that the Special Committee appointed to report on the Election of Fellows had held eight meetings, and that the names of members forming the Committee, and the attendances of each, were as follows :—Professor Aitchison, A.R.A., 8 attendances; Messrs. J. Macvicar Anderson, 8; Charles Barry, F.S.A., 2; John Belcher, 4; W. H. Atkin-Berry, 5; Thos. Blashill, 3; James Brooks, 2; J. M. Brydon, 8; W. D. Caröe, F.S.A., 1; Alfred Culshaw (Liverpool), 4; E. J. Dodgshun (Leeds), 0; Thos. Drew, R.H.A. (Dublin), 1; Wm. Emerson, *Hon. Sec.*, 7; Ernest George, 4; J. S. Gibson, 3; John Goodacre (Leicester), 1; Alex. Graham, F.S.A., 4; Charles Hadfield (Sheffield), 2; Edwin T. Hall, 3; Wm. Henman (Birmingham), 3; John Holden (Manchester), 0; James Jerman (Exeter), 1; E. W. Mountford, 0; Joseph Oswald (Newcastle), 1; F. C. Penrose, F.R.S., 3; Beresford Pite, 2; John Slater, 4; R. Phené Spiers, F.S.A., 3; Alfred Waterhouse, R.A., LL.D., 5; T. Lennox Watson (Glasgow), 1; Aston Webb, F.S.A., 6; W. L. Bernard (Bristol), 1; E. M. Bruce Vaughan (Cardiff), 1; T. Butler Wilson (Leeds), 1.

The reasons for the appointment of the Committee and the terms of the reference to them having been briefly discussed, the adoption of the Report was moved by Mr. John Slater [*F.*] and seconded by Mr. Aston Webb [*F.*].

Mr. H. HARDWICKE LANGSTON [*A.*] moved as an amendment that it was inexpedient to confer upon the Council the additional powers proposed by the resolutions. The Council apparently were afraid the class of Fellows would die out altogether, for they were opening the doors so widely that Fellows would be admitted without due scrutiny. Was it likely to raise the status and dignity of the class if Fellows were to be admitted in the manner recommended? Again, what had the Council done that they should be given these extra powers? What had they done towards the advancement of the objects of the Institute that they should rob the Associates of the advantage of voting conferred upon them by the Supplemental Charter? Why should the Council be empowered to invite candidates to come in, when they had not even applied for the Fellowship? It was a most undignified proceeding. Had members such confidence in the Council that they could give them a full and blank cheque in this way? He for one had not that confidence to be party to granting them the extra powers asked for in order that they might fill the place with Fellows. Neither would it be consistent with the dignity of the Fellowship to abolish the entrance fee in the case of non-Metropolitan candidates.

Mr. H. JONES LANCHESTER [*A.*] seconded the amendment. He wished to protest strongly against interfering with the liberty of election. The General Body should have the power of election. It was the strongest safeguard of any Government, the strongest safeguard of every institution, that all the members should have a right of vote. They wanted no artificial means of bringing Fellows in. They were quite satisfied with the existing system, and required no encouragement from the Council. He referred to Resolution No. 1. No. 5 was rather worse; it was full of all sorts of unpleasant possibilities, and he for one should be sorry to see such a resolution passed by the Institute. Free election was the best way of keeping up the dignity of the Institute. If that were broken down, disaster would ensue.

Mr. ASTON WEBB [*F.*] thought that the Report would be better understood if a little explanation were given of it. When the resolutions were first proposed they were brought before the General Body in July last year, and discussed, mainly with regard to the proportion of votes, the voting papers, and the requirements of the Council from candidates proposed as Fellows. Subsequently a further Report was sent round by the Council to the Allied Societies, who had expressed a desire for further time to consider the matter; and the Council had the advantage of their views upon it. With regard to the attendance of members of the Committee, it was small in the case of country members—indeed their attendance at every meeting was not expected; but all the Allied Societies held meetings in their own towns, and the result of those meetings was very carefully reported to the Institute Council. During the negotiations with the Allied Societies they all expressed a wish to take a larger interest in the concerns of the Institute, and one very general wish was expressed that if a local Society unanimously put before the Institute Council the name of a gentleman who was desirous of becoming a Fellow of the Institute, the Council should then have power after the usual inquiries to elect him without going to a general ballot. The same drawback was pointed out by nearly all the Allied Societies, that many men in the country might be desirable Fellows of the Institute, and yet they might not be known to a large number of Metropolitan Fellows. That was the reason this suggestion was made, and it seemed to the Council to be a reasonable one. The proposal was hemmed round with a great many precautions. One was that there must be a unanimous recommendation from the local body. The Council, of course, would not dispense with the ordinary form of application by candidates; that would have to come as soon as the recommendation from the local Society had been received by the Council.

Mr. H. HARDWICKE LANGSTON [*A.*] here asked leave to withdraw his amendment in favour of one to be moved by Mr. Vaughan Lanchester.

Mr. H. VAUGHAN LANCHESTER [*A.*] moved as an amendment that "this Meeting is of opinion that, in consequence of the limited scope of the reference to the Special Committee, the adoption of the Council's Report will not be in the best interests of the Institute, and that the Report be referred back in order that the state of the Institute and its members may be more fully considered." That might seem a drastic suggestion to make on the Report of a Committee that had sat for some time, and had gone very fully into the subject; but exception was taken to the finding of the Committee because it was considered that the matter had been dealt with in too narrow a light. The Committee had simply considered how to bring more Fellows into the Institute, without going back further and considering whether the mere fact of introducing more Fellows into the Institute was in itself a desirable thing. It might be desirable apart from other considerations, but if the introduction of a greater proportion of Fellows lowered the status of the Fellows one iota, no increase in their number would compensate for that defect. The Report was of a distinctly reactionary character, and, if adopted, would tend to lower the status of Fellows, which the Institute from time to time had made enormous efforts to raise. That should be their first aim—to raise the status of the Fellows. Complaints had been made that the Associates did not attempt to come into the class of Fellows with the alacrity that they should. How was that to be expected when in the near future it was probable, if the Committee's recommendations were adopted, that the status of Fellows would be lowered? A Fellow's professional capacity might be considered rather below that of the Associate. The Associate worked his way energetically up into the position he holds, whereas the Fellow was admitted by all sorts of little back doors. The general feeling of the Associates was not antagonistic to the Fellows. They merely wanted to feel that the Fellows were more above them, and that it was a class to which they could legitimately aspire, and one which would carry with it some addition to their status. If the recommendations of the Report were adopted, it would be much more difficult for the twenty or thirty men who knew something against the candidate to effectively vote against him in order that he might be rejected. The proportion at present seemed fair and reasonable, viz. that one vote against to four in favour should exclude a man; but if it were changed to one vote against to two in favour, those who voted for a man simply because they knew nothing against him would in every case outvote those who might know something very definite. It should not be their policy to drag in Fellows by hook or by crook from all the corners of the earth simply to swell their numbers. The Institute was financially a perfectly stable body, and additional subscriptions were not needed. The whole Report seemed framed on a wrong basis, due either to the limited reference or to the limited outlook of the people who framed it. It was so drastically reactionary that members should vote against it.

Mr. SYDNEY B. BEALE [*A.*] seconded Mr. Lanchester's amendment. While able to support six or seven of the resolutions of the Report, there were two or three others which he disagreed with entirely, one being the proposal to alter the form of voting; another, the proposal to issue circulars to the Associates; and thirdly, the admission of Fellows from the country who were recommended by certain small local bodies. He was of opinion that the resolutions had been drawn up apparently without any regard to the position of members, but drawn up in order to widen the doors for men to come in who were not up to the Metropolitan standard of eligibility for the Institute. There were no difficulties in the way of eligible men becoming Fellows, but the Committee, he was convinced, had not fully and carefully gone into the causes which were operating against candidates coming forward. As to Associates becoming Fellows, what advantages did they derive from the change? In the first place, they had to dip their hands into their pockets some two and a half times deeper. In the second place, they had to keep a list of the works they had executed. But that seemed to prove that the Associate was getting on very well as an Associate if he had done all those works, and was no strong argument for him to change his status. Then, again, upon the question of election, a candidate had not even the satisfaction of knowing that he had the unanimous wish of the Institute that he should be a Fellow. Further, the result of the first resolution would be that, though something like five hundred men might object to the election of a Fellow, yet he would be elected. That seemed a reason why Associates and others did not come flocking in great numbers to become Fellows. In his opinion these points had not been considered by the Committee, and therefore he seconded the amendment.

Mr. J. M. BRYDON [*F.*] said that it had been remarked that the Report had not been well considered. He could say that it had been extremely well considered. It was a subject hedged round with no end of difficulties. They were face to face with the fact that there was a paucity of candidates for the Fellowship. That was not desirable in an Institute claiming to represent the profession. The Report affected two classes: one class composed of architects in the country who exhibited unwillingness to join the Institute as Fellows, and the second composed of those Associates unwilling to proceed to the Fellowship. In order to find out the reasons with regard to the first class, the Committee took counsel with all the Allied Societies as fairly representing the country members, and their objections mainly fell under two heads. One was a reluctance to submit themselves to the vote of the mass of the Institute, the votes being given probably by men who knew little or nothing about them as artists or as to their standing as professional men; and the second was undoubtedly an objection that many men in the country did not see why they should pay four guineas as an annual subscription when probably they would not enter the Institute doors once in six months. The majority of the Allied Societies who were consulted had an idea that the subscription for country members ought to be reduced. In deference to the feelings of a certain section about the voting for the candidates, it was proposed that the voting should be altered. He could not see that, if the proportion of votes for and against were altered, it would have much effect. With regard to the monetary question, under clause 7, it was proposed to meet this objection by waiving the entrance fees for a time. That was a concession purely out of sympathy for members in the country who represented to the Committee that it was rather a pull on them, as they did not get the same advantages as the Metropolitan members. There was no disposition whatever to let men in by the back door. The crux of the whole question lay in No. 3; and if that clause were read carefully, members would see that there was no disposition whatever to reduce the status of Fellows. It was a regulation of the Council that all persons who made application for the Fellowship should not only fulfil the ordinary conditions of a respectable member of society, but prove to the satisfaction of the Council, after his designs had been looked over, that the quality of his work was up to a certain standard. If that were insisted on, the status of the Fellowship would be raised, and the Fellowship would be an object which Associates and every one who was not a member of the Institute would aspire to attain to, because it would be a recognition of his merits as an architect, and he might also say of his merits as an artist. Clause 4 touched the other point of the matter. What he had said in regard to testing the quality of a man's work seemed to be very essential; but long before that question cropped up it was foreseen that steps would eventually have to be taken to induce Associates to come up for the Fellowship. An architect could get on very well without being either an Associate or a Fellow; so that the argument which cut against the Fellowship would certainly cut against the Associateship. Putting the whole thing broadly, they were all anxious that the Institute should grow, and they should all be anxious that the status of the Fellowship should be raised rather than lowered. There was no intention to elect a man simply because he was recommended by an Allied Society; he must satisfy the requirements of the Council first, and the stronger they made the hands of the Council in raising the qualification of his work, the higher would be the status of the Fellowship, and the more desirable would it be that a man should come up in the ordinary course for the Fellowship.

Mr. R. PHENÈ SPIERS [*F.*], replying to a question whether the process of blackballing in any other learned Society was similar to that now proposed, said that the voting in most of the learned Societies was taken in the room, and that made a very great difference. He did not think that any Society except the Institute voted by balloting. In the Arts and Water Colour Societies the proportion of votes was two for to one against. With regard to Mr. Lanchester's point that no regard was paid to the status, of late years the status of Fellows had been very carefully considered—much more so than formerly. All the drawings were examined most carefully, and not only as regards their artistic merit, but as a whole they were required to be such as to justify the filling up of the ranks of the Fellows from outside. The desire was to raise the status of Fellows. Mr. Beale had said that there was no serious question about men from the country. If Mr. Beale would take the trouble to compare the numbers of the past few years he would find that there was a very serious falling-off. It no doubt commenced with an unfortunate vote taken some years ago, when some very eligible candidates were rejected, including a man sixty years of age who was well known throughout the country, and who was excluded because he had not passed the examination. Of one alteration he was in favour, viz. "That the form of voting papers should be altered." The point was that a great number of members would not take the trouble to vote for a person if they did not know his name, and so that person would in all probability be rejected, notwithstanding the testimony of the proposer and seconder that the candidate was a good man. If members did not vote for such a candidate the abstention was counted as an adverse vote; and therefore it was advisable to alter the regulation, so that, unless the name were scratched out, the vote would be taken as affirmative.

Mr. H. C. BOYES [*F.*] endorsed what Mr. Spiers had said about the provincial gentlemen coming up for election. He spoke from his own knowledge in the City. At the present time many well-known gentlemen would not come forward because they believed there was a clique who would do all they could to prevent their being elected. As a Body founded to promote the interests of architecture all over the country, and also to influence the art in other parts of the world besides our own Empire, the Institute ought to gain all the strength it possibly could. Architects ought to be united. If great men and able men were kept outside the Institute, were they serving their own interests and the interests of the public? He knew a great many architects in the City who certainly ought to be Fellows, but they would not become candidates for the Fellowship because it was said that every one who came from the City was blackballed.

Mr. J. S. GIBSON [*A.*] said that the friction with regard to the election of Fellows arose a few years ago because a certain candidate, who would have made undoubtedly a very good Fellow of the Institute, happened to be blackballed because his name was put forward on the voting list in company with another who was not a desirable candidate. The trouble arose entirely through a mistake, if he might so term it, of the Council in putting forward those names together. The whole thing could have been obviated then, and it could very easily be obviated now, by challenging the name of any particular candidate who came up for election, and issuing separate voting lists on these names. There would be no chance then of one man being confounded with another. The falling-off in candidates for the Fellowship, he contended, was not due to the blackballing incident referred to. Speaking from memory, the candidates for the Fellowship increased steadily for a great many years, but about three years ago they fell off very much, and in almost equal proportions. Provincial and London men fell off equally, which proved that the paucity of candidates for the Fellowship was not because provincial members or outsiders did not wish to come up. Consequently the three clauses, 5, 6, and 7, which were framed wholly for the benefit of non-Metropolitan members, were not at all necessary. They were simply a sop to tempt non-Metropolitan members to come forward. Some speakers had characterised the first of these clauses as "back doors." That was a matter of individual opinion. With regard to the first proposition as to altering the proportion of votes which would keep a man out, even taking that 400 papers were returned, though the total number issued was over 1,500, that still meant that from seventy to eighty members were required on the present basis to exclude gentlemen who were not thought to be desirable candidates; and if that quantity were doubled it would make it practically prohibitive.

The PRESIDENT at this point drew attention to the lateness of the hour, and, having regard to the fact that several members desired to speak on the question, suggested the adjournment of the Meeting to the 14th June, whereupon Mr. Woodward [*A.*] formally moved, and Mr. Phené Spiers [*F.*] seconded, the adjournment. Before the motion was put from the Chair,

Mr. OWEN FLEMING [*A.*] observed that the Associates had moved this amendment to the original motion with very great regret. If the President would say that the Council would like an opportunity, after hearing the views that had been expressed at the Meeting, of reconsidering the matter to a certain extent, and possibly getting some further details and statistics, he fancied it was not beyond the great ability that the Council exercised in most of their operations to prepare a Report that would be unanimously accepted both by Fellows and Associates, and be the starting point for a fresh lease of life for the Institute.

The PRESIDENT, having observed upon the difficulties of the course suggested by Mr. Fleming, and upon the hardship of calling together again the members of the Committee, many of whom were gentlemen in busy practice in the provinces, asked the Meeting to vote upon the adjournment. The sense of the Meeting was thereupon taken by show of hands, and the motion for the adjournment declared to be lost.

Mr. WM. WOODWARD [*A.*] said that, having moved the adjournment, he should like to make one or two observations on the original motion. The great success of the Surveyors' Institution and the secret of the confidence placed in that body by the public generally were due to the enlargement of its area and of its members. The Council of the Surveyors' Institution had taken great pains in the selection of all their Fellows and members to secure that they were the best men possible to get even in the provinces. He agreed with the resolution of the Committee that there could be no better criterion of a provincial man's eligibility for the Institute than the unanimous opinion of his brethren in that particular district that he was worthy of the Fellowship. He hoped members would have confidence in the gentlemen to whom these questions were to be referred, because, as Mr. Aston Webb had stated, all possible care would be taken, and no one who was not thoroughly eligible and thoroughly respectable would be admitted by the Council.

Mr. FRANK LISHMAN [*A.*] asked to be allowed to say a word or two in the interests of provincial members. What was the definition of a practising member? Take, for instance, managing assistants who had acquired the status in certain offices of men fitted to become Fellows, and who would be eligible as Fellows. It was quite impossible for them to become members without going through the Associates' examination, which seemed the great deterrent to many men, especially the seniors among them. It was not right that they should be kept out. On the question of entrance fees the Associates should have consideration for the country members in that respect. He should be glad to hear any argument why provincial architects should become Fellows. As regards the Council electing men who were Presidents or Presidents-elect of Allied Societies, the Council were in rather an unenviable position should they feel bound to veto a man who had been put up by an Allied Society simply because he was a President or President-elect of that Society.

Mr. HUGH STANNUS [*F.*] thought it would be only fair before the vote was taken that those members who agreed with the Report should have an opportunity of stating their views. A great deal had been said about raising the status of the Fellows. Every one had that object in view. But there was another point—viz. raising the status of the Council. He would like to see the Council strengthened. The Council had come to the Institute with this Report, asking that their hands should be strengthened, and yet members hesitated to trust the very men they elected to conduct the affairs of the Institute. He thought that if the amendment were carried, and the Report were sent back, they would be taking the first step towards wrecking the Institute. He did not think sufficient had been said as to the point raised by Mr. Spiers, that the blackballing by the Institute was very different from the blackballing by the learned Societies. There was no obloquy in being blackballed in the Society of Antiquaries; it was a close corporation; they only received a limited number of Fellows. But if a man were blackballed by the Institute the stigma attached to him all through his life. If that man were giving evidence in a Court of Law he might be asked, "What is your status in the Royal Institute of British Architects?" "I am an Associate." "Have you ever tried to be a Fellow?" "Yes, I have." "And what happened?" "I was blackballed." And why? Because he did not happen to obtain the proportion of votes for election. That man's professional career would be interrupted and perhaps blasted. He trusted, therefore, that this clause would be adhered to by the Council. Another point: they all desired that their country brethren should come into the Institute and strengthen the hands of the representative body. The Council had been in communication with the non-Metropolitan Societies, and had prepared this Report to meet their views. He would appeal to Mr. Lanchester, and those who thought with him, to show their trust in the Council, to withdraw this amendment, and agree to the adjournment to the 14th June.

Mr. W. H. SETH-SMITH [*F.*] heartily agreed with what had been said about the importance of maintaining the status of the Fellows. In speaking with provincial men who wanted to be Fellows he had urged certain points very forcibly. One was the examination which had been established for Fellows, which consisted of a very careful scrutiny of drawings of executed buildings. The cost of taking photographs of their executed works was so great that Associates could not very well face it; and there was some reason in that objection, because the cost of producing the necessary drawings was quite equivalent to the expense the Associates were put to in their examination. He hoped what had been said about having confidence in the Council would have weight; otherwise they would never get any forwarder. Business could never be got through without confidence in the Council. The Institute owed the Committee a great deal of gratitude for the way they had considered this subject. At the same time there were one or two points in the Report which he thought should be amended. If the adjournment were agreed to, one point should be considered in the interval, viz. whether it would be a safe thing to elect to the Fellowship without ballot the President or President-elect of any or all of the Allied Societies, because there were so many qualities and qualifications necessary in the President or President-elect of a provincial Society which would not constitute eligibility for the Institute.

A member having moved that the original motion should be now voted upon,

Mr. ASTON WEBB [*F.*] asked the indulgence of the Meeting for saying a few words. The proposal before the Meeting at the present time was this: "That this Meeting is of opinion, in consequence of the limited scope of the Reference to the Special Committee, that the adoption of the Council's Report would not be in the best interests of the Institute." Were members quite sure that they knew the reference to the Special Committee? Were they certain that it was not adequate; and were they at all sure that the Committee did not have all the facts before them? Because, if members were not sure, they could hardly wish to throw on the Committee all this labour without the opportunity of discussing it in any shape or form. The Meeting was debarred by the amendment from discussing it in detail, and it was sought to prevent that discussion by throwing the Report over. The reference to the Committee was a very wide one, and specified a great many points which were wished to be considered. The Committee was a large one, and composed of many gentlemen whose services the Institute ought to be glad to have, and who had attended and entered thoroughly into all the points. Mr. Owen Fleming said that the objectors to the Report did not wish to assume an attitude of opposition to the Committee. All that he asked was that they should have a little more discussion. The discussion that evening had done good and cleared the air. The Council knew a great deal more now what the Associates wished than they did before, and he appealed to them to let the Council have the next fortnight to consider the various points which had been very properly and fairly laid before them. If the Meeting adjourned to the 14th June they would have an opportunity meanwhile of thinking over the matter, and the Council would be treated more fairly than if the amendment were passed, which would prevent the present members of this Committee from acting again. They could hardly ask those distinguished members of the Committee to go through the whole mill again on a general resolution of this sort. It was the wish of all that the status of the Fellows should be raised. If members thought that the Report would lower the status of the Fellows, he could only say that the Committee took exactly the contrary view. Mr. Aston Webb further said that, in reply to Mr. Langston, he would undertake that the views of the objectors to the Report were properly laid before the Council before the next meeting, but not with a view to the Report's being referred back to the Council.

Mr. E. W. MOUNTFORD [*F.*], in pressing the adjournment of the debate, said he was sure that the younger Associates would not attribute to him any want of sympathy with them, but they must see that snatching a chance division was hardly the way to treat so important a subject. He would advise them to meet the wishes of the Council to this extent, and allow the debate to be adjourned to this day fortnight. The Council, in whom they appeared to have so little confidence, had to meet and discuss these things over and over again, and members would not be giving up too much of their time if they gave two evenings to the subject instead of one. Again, if they objected to the Council it was very easy to elect a new one.

The motion for adjournment to the 14th June was then put from the Chair, and agreed to.

The Adjourned General Meeting for the further consideration of the Council's Report on the Fellows Question took place at the conclusion of the Business Meeting (Ordinary) of the 14th inst., Mr. Aston Webb, F.S.A., being in the Chair.

The Report as reconsidered by the Council was as follows:—

2. That the form of voting-papers be altered,

so that the names on the list voted against have to be crossed out.

3. That attention be called to the requirements of the Council as to the drawings, &c., to accompany an application for Fellowship.
4. That the Council consider it is desirable that Associates who are eligible should come forward for election as Fellows.
5. That when the Council of the Institute receive a unanimous recommendation formally submitted by the Council of any Allied Society that a practising member of the profession in their district is eligible and worthy of being elected a Fellow, the Council shall have the power to elect him, his work being of sufficient merit.
6. That power be given to the Council to admit annually to the Fellowship, without ballot, the President or President-elect of any or all of the Allied Societies who are eligible and apply for admission.
7. That the Council dispense with the payment of an entrance fee in the case of non-Metropolitan Fellows during the pleasure of the Council.
8. That a room be utilised as a tea and smoking room, and that no books from the Institute Library be consulted therein with the exception of periodicals and the professional journals.
9. That the Council consider it is desirable to hold periodical conferences, meetings, and dinners, a certain proportion thereof to take place in the provinces, with a view to promoting more friendly intercourse with the Allied Societies.
10. That the Allied Societies be invited to arrange, when possible, the date of election of their officers and the duration of their Sessions, so as to correspond with those of the Institute.

In the event of the foregoing Resolutions being approved, it will be necessary to alter certain By-laws, and the Council now propose the necessary alteration in those By-laws as follows :—

> By-law 9. The following paragraph to be added thereto :—
>
> Provided always that when the Council of the Institute receive a unanimous recommendation formally submitted by the Council of any Allied Society that a practising member of the profession in their district is eligible and worthy of being elected a Fellow, the Council shall have power to elect him, his work being of sufficient merit. The Council may also admit annually to the Fellowship, without ballot, the President or President-elect of any or all of the Allied Societies who may be eligible and apply for admission.
>
> By-law 15, clause (*a*), to be added to as follows :—
>
> Provided always that the Council may, during their pleasure, dispense with the payment of an entrance fee in the case of non-Metropolitan Fellows.

THE CHAIRMAN, in opening the proceedings, said that under the ordinary rules of debate the meeting was in the hands of the gentleman who had moved the adjournment at the last meeting; but he had his consent to intervene with a statement showing how the report came to be brought before the Institute, and giving the result of a special Council Meeting held last Friday to consider the views expressed by speakers at the last meeting. In the autumn of 1895, Mr. Penrose drew attention in his Presidential Address to the falling-off of candidates for the Fellowship. In the five years 1891 to 1895 the elections to the class of Fellows were as follows :—

Year	Number elected
1891	63
1892	59
1893	24
1894	10
1895	9

In December 1895 a Committee was appointed by the Council to inquire into the reasons for this gradual diminution of Fellows. Almost simultaneously with the appointment of that Committee a memorial was received, signed by the President of the Institute, by four members of the Council, by a considerable number of Fellows, and by a very large number of Associates. That Memorial was as follows :—

> We, the undersigned, members of the Royal Institute of British Architects, observe with regret that there is a growing difficulty in obtaining proposals for admission to the class of Fellows from candidates who are in every way eligible. We believe, moreover, that the uncertainty of recent elections and the dearth of eligible candidates may be ascribed to the differences of opinion which exist as to the qualifications for Fellowship. We would therefore respectfully urge upon the Council the immediate necessity of definitely regulating the future election of Fellows under the powers conferred by clause 3 of the Charter, upon the principle that Fellows should be elected solely from the class of Associates, excepting only in the case of those architects whose work is of recognised merit.

He had been told that there was an impression abroad that the Memorial did not receive the attention it deserved. The President of the Institute, however, who signed that Memorial, was also Chairman of the Fellows Committee, and attended most regularly to his duties. That sufficed to show that the Memorial had not been overlooked, though it was not necessary to refer to it specially in the Report. The Committee met three times, and reported to the Council, in May 1896, on two points. The Council considered that Report, and then requested the Committee to consider the matter still further, widening the reference so as to include the whole question of the admission of Fellows. At the same time several gentlemen, including the two Associate members of the Council, were added to the Committee, so as to include as far as possible all branches of thought. Two more meetings were held, and the conclusions arrived at—practically the first four Resolutions of the present Report—were laid before a Special Meeting of the Institute held on the 6th July last year,* in order to hear the views of the General Body. So far as he remembered, there was then no opposition to those proposals. The Council therefore proceeded on the lines of those four heads, but postponed their final Report until they had still further consulted the Allied Societies. As a matter of fact, the principal additions to the present Report were the result of conferences with the Allied Societies. The Committee met again in November and in January, and drew up various resolutions and proposals which were submitted to the Allied Societies. A meeting was ultimately held, at which there was a good attendance of gentlemen from the Allied Societies, while those who could not come had held special meetings, and sent up printed reports containing their views on the various proposals; the result being that on 19th January of the present year a Report was made to the Council, substantially in the form now before the Meeting. He had thought it necessary to give this little historical sketch, as many gentlemen had little idea of the amount of work that had been done and the questions that had been raised; he assured them that every point raised at the Meeting a fortnight ago had been discussed over and over again at those Committee meetings. Coming down to the present time, the Council had taken into consideration all the points raised at the last meeting, and the Council desired, to meet those views, to modify their Report as far as possible. Clauses Nos. 1 and 2 it was necessary to take together. Every one was unanimously in favour of No. 2. It was obviously fair that the man who wished to keep any one out of the Institute should have the unpleasant duty of putting his pen through his name; therefore they proposed to keep that. But as to question No. 1 there seemed a strong feeling that it would lower the dignity of the Fellowship if they reduced the number of black balls to keep a man out; and as an alteration of a by-law should only be made if there is urgent demand for it, the Council proposed to withdraw No. 1 altogether. With regard to No. 3: "That attention be called to the requirements of the Council as to the drawings, &c., to accompany an application for Fellowship," that was merely a matter for the Council. It concerned the examination of Fellows; but, in order that it should be a fair and proper examination of Fellows, the Council desired that it should be fully stated, and perhaps a little more generally known, what that examination consisted of. Mr. Macvicar Anderson, when he was President, put the whole of this question in a nutshell when he said that Associates should be examined as students, but that Fellows should be examined as architects. The Testimony of Study is for Associates, and assuming that a man is an honourable and an upright man, the only other test is the test of his work. With regard to No. 4, it had always been felt that there was a large number of Associates who, in duty to themselves and in duty to the Institute, ought to become Fellows. So it was proposed to send a notice round reminding them of that fact. But there seemed to be great objection to such a course. It was thought that it might be misunderstood, and taken as an invitation, and that it would be very hard, when a man had been invited to become a Fellow, not to elect him; therefore it was proposed to omit a portion of the resolution so that it should read as follows: "That the Council consider it desirable that Associates who are eligible should come forward for election as Fellows." No. 5 affected a question that was brought in entirely after the last report, and in accordance with the views of the Allied Societies. Every one, he was sure, laid great stress upon the importance of the Allied Societies, and upon having a large number of members of the Institute in all parts of the country. The Councils of the provincial Societies nearly all suggested some proposal of this sort, that when a man was sufficiently well known and respected in his own district to be unanimously recommended by his Society, the Council of the Institute should be trusted to elect him after putting him through the usual examination that candidates for Fellowship are subjected to. The necessity for doing something of the sort might be shown by giving one or two figures. At Sheffield, there were 67 members, only ten of whom belonged to the Institute; at Leicester there were 58 members, only 18 of whom belonged to the Institute; at Liverpool there were 78, only 25 of whom belonged to the Institute; and so in other centres. Surely there must be one or two in each of those Societies who would be well worthy of being elected Fellows. The Council were of opinion that the governing bodies of the provincial Societies should be able from time to time to nominate such men as they desired. The Council felt that they ought to concede this point to the Allied Societies; but to make the matter quite clear they proposed to add to that recommendation the following words: "his work being of sufficient merit." He hoped that would meet the views of those who objected to the clause as originally drafted. No. 6 was very much the same as No. 5, and nothing need be said on that. With regard to No. 7, provincial members thought that as they had not the same advantages as London members, they ought to be exempt from payment of an entrance fee. Taking into account the fact that the Associates' entrance fee was practically their examination fee, the Council thought they might fairly give provincial Fellows that little advantage, and take off the entrance fee. Then there was a little verbal correction. Instead of saying, "That it be recommended to the Council," it was proposed to say "That the Council dispense with." With regard to No. 8, instead of saying, "The old Council Room," it was proposed merely to say, "That a room be used." The Council hoped to find a room to be used as a sort of common room for smoking, without utilising the old Council Room at all. The country members had said that it would be a great convenience to them when they came to town if they could see a client or others they had business with at the Institute rooms, and this proposal was to meet their request. With regard to No. 9, the meeting at Manchester last year was immensely appreciated by the provincial members, and if they could arrange occasionally to hold their dinner in the provinces, the good feeling between London and the provincial architects would be much increased, and be a mutual advantage; that was therefore a reasonable and proper suggestion. With regard to No. 10, that was purely an executive matter. The Presidents of Allied Societies had to be put into the Institute balloting list, and it often happened that an Allied Society did not know who their President would be until after the Institute list had been issued. It would be convenient, therefore, if the provincial Societies could hold their elections a little earlier, so that the names of Presidents might be known in time for the Institute list. That covered all the points generally. The best way of discussing the Report fairly, and of coming to a conclusion, as he hoped they should that evening, would be to postpone for a time the motion for the adoption of the Report, and to take it clause by clause; and when they had been all through it, then to bring forward the original motion. Mr. Lanchester could then, if he chose, bring forward his amendment. He thought, however, that the Council's amendments had met most of his objections.

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* JOURNAL, Vol. III. Third Series, p. 521.

Mr. H. VAUGHAN LANCHESTER [*A.*] expressed himself willing to withdraw his amendment.

The CHAIRMAN then put No. 2, which was carried unanimously.

With regard to No. 3, Mr. G. A. T. Middleton [*A.*] asked whether care would be taken to ascertain whether the drawings had been actually supervised by the candidate. The Chairman replied that candidates were always asked if it was their own design. The drawing was not the important part of it, but the design. No. 3 was then put and carried unanimously.

The CHAIRMAN then put No. 4, stating that it would then merely be an expression of this Meeting through their Council that it was desirable, when an Associate was eligible for a Fellow—eligible, that is to say, if he had done sufficient work, and in other ways—he should come forward as a Fellow. No. 4 was carried unanimously.

THE CHAIRMAN then put No. 5, reading the amended version at the request of Mr. H. Langston, "That when the Council of the Institute receive a unanimous recommendation, formally submitted by the Council of any Allied Society, that a practising member of the profession in their district is eligible and worthy of being elected a Fellow, the Council shall have the power to elect him, his work being of sufficient merit."

MR. JOHN SLATER [*F.*], in proposing that the resolution be adopted, urged that if the Council of an Allied Society were unanimous in recommending to the Council any architect in their neighbourhood the option of electing him was a very little thing to be given to the Council, and that it would be a slur upon them if that amount of freedom were not given. It would further be a very disagreeable slap in the face to the members of the Allied Societies if this Meeting were to reject this proposal. The feeling was unanimous in the provinces that some such regulation as this ought to exist. He begged formally to move the adoption of the resolution.

MR. PENROSE [*F.*], F.R.S., in seconding the resolution, vouched for the great interest that members of the Allied Societies had taken in the clause.

MR. MACVICAR ANDERSON [*F.*], rising in support of the resolution, stated that he regarded this as *the* one of the ten points that ought to be carried without any discussion or doubt or hesitation. A new policy had been inaugurated in the Institute of late years. The Council had endeavoured to extend the influence of the Institute to the provinces as far as possible and so had created the Allied Societies of the Institute. It was surely desirable to bring in as many members of the Allied Societies as members of the Institute as possible; and, what was of infinitely greater importance, carrying this resolution would show the provincial members throughout the provinces that the Institute had confidence in them. By withdrawing the first of these rules it was shown that the Council had confidence in the Associates. In regard to this clause he asked the Associates to have the same confidence in country members. By adopting this clause, the Meeting would give very great satisfaction to country members, and at the same time greatly strengthen the hands of the Institute.

MR. LANGSTON [*A.*] argued that he had not heard one argument advanced by any member of the Council why the Council should have the exclusive privilege of electing these gentlemen from the country.

MR. WILLIAM WHITE [*F.*], F.S.A., in reply to the last speaker, urged that it was a mistake to admit Associates to the organic government of the Institute, maintaining that the Council was the proper body to receive the communication from the Allied Societies and to act upon it.

MR. BERESFORD PITE [*F.*] pointed out that the object of any method of election was to exclude the undesirable candidates; and the fact whether a man was undesirable or not must go with knowledge; and it was clearly desirable that those should have the right or the power of exercising this excluding measure who have that knowledge. Therefore, if the Council of an Allied Society unanimously recommend a member to the Council of the Royal Institute, the man's undesirability or desirability is tested by those who have the knowledge. Also, that inasmuch as the Associates have been trusted and empowered to vote in elections quite recently, as part of a policy which is to extend the influence of the Institute, it would be very undesirable that the newly constituted body of electors should at the outset exercise their authority by limiting the influence and the extent of this Institute.

MR. OWEN FLEMING [*A.*], in venturing to differ from the views of supporters of the resolution, felt that he was, perhaps, taking a wider view of the Institute and its members. He urged that it would be a courteous action for the Council not to press the motion, and more than courteous—statesmanlike; because, supposing the members of the Allied Societies were elected by the unanimous vote of the Institute, surely it was a little higher honour than even being elected by a Council. It prevented Associates from doing that honour to their provincial brethren that they would desire to do.

THE HON. SECRETARY pointed out that it was a greater honour for a member of a Society to be elected by the Council than to come in by ballot.

MR. H. HEATHCOTE STATHAM [*F.*], in support of the clause, said that it was important that the Allied Societies should be drawn into the Institute. It was not a way to draw the Societies to say to them, "You must submit your candidate to the vote of the Institute, most of whom know nothing about him." It was only a proper thing that weight should be attached to the unanimous recommendation, and regard it as coming from people who knew their men, and whose opinion was to be accepted.

MR. E. W. HUDSON [*A.*] opposed the resolution, on the ground that members of the Allied Societies would unanimously recommend each other, and instanced occasions on which Associates made a right use of their votes.

MR. C. H. BRODIE [*A.*] maintained that candidates for election should come before the whole body. He also believed that a great mistake had been made in altering the by-laws to make some variation in the method of election, and did not want that mistake repeated.

MR. EDWIN T. HALL [*F.*] stated that there was no want of confidence in the Associates. Ten years ago, when the Charter was under discussion, he was one of the strongest advocates for voting by the Associates on every matter in the Institute, but it was a liberal extension of that confidence which had caused the Council to bring this proposal forward. In the Charter it was in contemplation that there should be branches of the Royal Institute all over the country, and, if there had been, it would be almost certain that those branches would have the power of electing members of the Institute—a view which was very strongly impressed upon the Committee when this subject was under discussion. The Allied Societies say that many of their members are nervous of being rejected—they do not know whether they may or may not be. Of course, in the ballot, it follows very frequently that a man may be rejected, and they say that in a small provincial town to be rejected is practically death to that man's professional work; therefore they say if their Council unanimously say he is a fit and proper person, he ought to be free from that grave danger. It was for that reason that the Committee and the Council strongly thought the resolution should be recommended to the Institute and adopted by it. When a recommended candidate comes before the Council, his drawings would come up like those of every other member. The drawings have to be examined, and he has to make a declaration that the designs are his own; and when they have passed the Council, the Council say he is a fit and proper person. It was simply then an act of courtesy to the local Society, and would add to their prestige in their district as architects, and therefore to the prestige of the Royal Institute of British Architects with whom they were allied.

MR. ROBERT WILLIAMS [*F.*] considered the proposal a dangerous one.

MR. FRANK LISHMAN [*A.*], speaking on behalf of the Allied Societies, thought that there was much good in this fifth clause, but there was a very serious loophole for escape for Associates. The result of this clause would, in all probability, be a falling-off from the provincial centres of the Associates, for men would wait until the time came when they could be unanimously recommended for Fellowship.

Mr. E. W. MOUNTFORD [*F.*] considered the point altogether misunderstood. It was not a question of confidence between them and the Council, but it was the desire of the Council to confer a certain amount of honour upon the provincial Societies. The provincial Societies asked for a right to elect Fellows direct, without any vote of the Council, and it was with some trouble that they were prevailed upon to accept this modification of their desires. To reject the Report would be to offend nine-tenths of the provincial members. It was a question of whether we should give their Council a privilege of certain gentlemen being elected without going through the ordeal by ballot—that was all the point. To refute the arguments of the last speaker, he considered the unanimous vote of a provincial Council would be a very rare thing. And, further, when the Council here reserved the right to sit in judgment upon the work of a member so recommended, that of itself would be a sufficient guarantee that justice would be done to the selection of the provincial Societies who had recommended him to the Council of the Institute.

The CHAIRMAN, before putting the matter to the vote, reminded Associates that under clause 28 of the Charter they could not vote on this point, as it involved the alteration of a by-law. If, however, when the Report was put as a whole, they objected to any part of it, Associates could then exercise their right of voting against its adoption.

Mr. LANGSTON [*A.*] protested that there was nothing in the resolution about a "by-law," and that the Associates had a constitutional right to vote upon the matter.

The CHAIRMAN regretted that he could put no other construction on the clause of the Charter. He had no option, therefore, but to ask Fellows alone to vote on this Resolution.

Resolution 5 was then put from the Chair, and carried, 22 Fellows voting for and 1 against it. Resolutions 6 and 7 were also voted on by Fellows alone, and carried unanimously. Resolution 8, voted on by both classes, was carried with one dissentient.

Resolution 9 being before the Meeting, Mr. Langston objected to the postponement of the Annual Dinner, originally fixed to take place in June, observing that it was most desirable that the function should have been held during the Jubilee celebrations, when members from the provinces and abroad would be in London. A valuable opportunity of reunion with their provincial and colonial brethren had thus been lost.

The HON. SECRETARY explained that the proposal with regard to the Dinner had been carefully considered by the Council, but there were various reasons for postponing it. In the first place, they had a difficulty in securing a room for the purpose, only three days being open to them in the whole of the summer. Again, though notices had gone out to members some six weeks or more before the postponement was decided on, only some six or eight applications had been received for tickets. Then something like fifty invitations had been issued to distinguished persons to attend the Dinner, but every one of those persons was engaged in consequence of the Dinner having to be held in one particular week. The Dinner would be held later in the year, and members would receive notices in due course.—Resolutions 9 and 10 were thereupon separately put and carried unanimously.

The CHAIRMAN, in moving the adoption of the Report as it had been amended and altered, observed that several of the Associates had expressed an opinion that the views of those who differed from the previous Report had been met in a conciliatory and large spirit. There appeared to be only one point of difference which the Council had not seen their way to grant. It was impossible, in a meeting of gentlemen holding various views, to arrange any Report which should really meet everybody on every single point. The Council had met the objectors on every point but this one, and he asked them to meet the Council on that, which was really a small point after all. He did not believe that that clause would be a great deal used, but to show the confidence in, and the anxiety they had to keep the Allied Societies with, them he would ask them to agree to the one point which the Council had not been able to concede.

Mr. J. M. BRYDON [*F.*] seconded the motion. With regard to Resolution No. 5, it must be remembered that the election rested with the Council after all, however unanimously a gentleman had been recommended by the Allied Society. Words had been added to the resolution making the quality of the candidates' work the supreme test. Now surely members did not want anything stronger than that. He should like to read to the Meeting the actual regulation referred to in that clause, as he believed it was not very well known. It ran: "Every person desiring to be admitted a Fellow shall in all cases submit for examination by the Council, as evidence of his abilities as a practising architect, working drawings, and, if practical, photographs of his executed works, with such further evidence, if any, as the Council may require. Such drawings and photographs shall be accompanied by a declaration, signed by the applicant, that the buildings to which they relate have been designed by himself." That was not a question of drawing, but of design. If a man had sent a declaration, signed by himself, that the designs of the buildings were his own, and if the Council, after having sat on those designs, were unanimously of opinion that he had done work of such quality as to be admitted a Fellow, surely that was test enough for any man.

Mr. SYDNEY B. BEALE [*A.*] said that the Associates had to take a certain line on this occasion. It was useless for them to discuss the question, as they were not allowed to vote upon it. A great deal might have been said to upset the fears of Mr. Hall and the arguments of Mr. Slater, and he had hoped to have had the opportunity of combating some of the arguments in the Chairman's opening remarks, but he was denied that opportunity in consequence of being disfranchised. The Associates therefore proposed to show that they disagreed with the Chairman's ruling on that point by voting against the adoption of the whole of the Report.

The CHAIRMAN said that it was very far from their wish to close the mouths of any of the Associates, and they would relax any order there might be in order to have a clear expression of opinion from everybody.

Mr. E. W. HUDSON [*A.*] said that it seemed to him that the provincial branches approached the Council in the spirit of putting a pistol to their heads, and stating their demands, threatening, as it were, to secede if they did not get what they asked. That was not the spirit in which a foster-child should come to his parent. For that reason he regretted that he should not be able to support the motion.

Mr. VAUGHAN LANCHESTER [*A.*] thought that clause 5 was the only one on which there was any question. An idea seemed to prevail that Associates sought to keep out all the Fellows, or the great bulk of them, who did not come through the Associate class. That clause was purely the result of that idea. There was not the slightest desire in any member to keep out a man who could reasonably be considered a desirable Fellow; and it was most unwise to propose that the voting power should be restricted. The idea would obtain currency in the provinces that a large body of the Institute would vote against every man who was not what they considered the *beau ideal* of a Fellow, that they would, out of petty cliqueism or spite, blackball an eligible country candidate. It would be a grave mistake to pass such a clause as No. 5. The Report with that clause left out would be quite sufficient to meet all difficulties. He could not conscientiously vote for the adoption of the Report with clause 5 in it.

Mr. MACVICAR ANDERSON [*F.*] pointed out that they could conscientiously vote upon it, as the clause was proposed as an honour to express confidence in their country members. One other point: he had been present at every one of the meetings, and he should like to point out that the representatives of the Allied Societies who attended the meetings exhibited the utmost possible courtesy, and certainly did not exhibit any spirit which could be properly described as "putting a pistol to the Council's head"—quite the reverse.

Mr. W. D. CARÖE [*F.*], F.S.A., said that the provincial bodies did not offer their views unasked; they were applied to by the Council in the first instance. One of the main points upon which they were all agreed was the one embodied in Resolution No. 5, and that was the one honour the Council proposed to do them. It was a misunderstanding on the part of the Associates to think that this clause was directed against them.

Mr. E. T. HALL [*F.*] pointed out that the Report was a compromise after conference with all the Allied Societies. They had asked for a great deal more than there was in this Report, but this one point had been left in their interests.

The CHAIRMAN understood from Mr. Lanchester, who, he believed, was speaking on behalf of a considerable number of Associates, that the only objection taken to the Report was to Clause 5. He appealed to them, was it not a great pity to lose the labour of nearly two years on account of one point? He proposed, then, to make a suggestion, which would possibly get over the difficulty, and enable the Meeting generally to pass the Report. He would suggest that this Clause No. 5 be limited for a period of five years. His reason for suggesting the alteration was this: The Associates or the Memorialists were anxious—and he quite appreciated their point—that Fellows should in future come in through the class of Associates. But for some years there must be a certain number of gentlemen of an age who could not be asked to undergo an examination, but whose work at the same time entitled them to become Fellows if they were approached in the way suggested. He trusted his proposal would meet the views of the Associates.

The motion for the adoption of the Report, as modified, was then put, and carried by a majority of nineteen, forty-four voting in favour and twenty-five against.

The Resolutions for the alteration of the by-laws were then put, and carried unanimously, Fellows only voting.

Mr. SETH-SMITH [*F.*] asked leave to move that the following Resolution be added to the Report: "That this Institute desires to emphasise the fact that, while it regards the qualification for the Associateship as a sufficient guarantee of a proper training, the Fellowship must be understood to be its diploma and the complete qualification of an architect." The words which dropped from the Chairman in his opening remarks showed that he approved of this proposition, which would focus what had already been passed. The "Associateship" was a sufficient guarantee of a proper training, but the Fellowship must be looked to to be the Institute's complete diploma. There was a very hazy idea as to this, and there would be a clearer distinction between the two classes if that were understood—it would do more than anything else to promote the candidature for the Fellowship.

Mr. Seth-Smith's motion not being seconded, the matter dropped.

MINUTES. XV.

SPECIAL GENERAL MEETING.

THE FELLOWS QUESTION.

At a Special General Meeting, held Monday, 31st May 1897, at 8 p.m., Professor Aitchison, A.R.A., *President*, in the Chair, the Minutes of the Meeting held 17th May 1897 [p. 368] were taken as read and signed as correct.

The Secretary announced the decease of Charles John Phipps, *Fellow*; George Orrell, *Associate*; and John Jenkins Cole, formerly a Fellow of the Institute.

The following Associates attending for the first time since their election were formally admitted and signed the Register—viz. George John Thrift Reavell, Stephen Powlson Rees, and Philip Appleby Robson.

The Report of the Council on the Election of Candidates for Fellowship [see p. 385], a copy of which had been issued to every home member of the Institute, was formally presented by the President and taken as read.

The Secretary having replied to questions, of which notice had been given by Mr. H. Hardwicke Langston [*A.*], respecting the composition of the Fellows Special Committee, the number of meetings held, and the attendances of each member, the adoption of the Report was moved by Mr. John Slater [*F.*] and seconded by Mr. Aston Webb, *Vice-President*.

An amendment, moved by Mr. H. Hardwicke Langston [*A.*] and seconded by Mr. H. Jones Lanchester [*A.*], that it was inexpedient to confer upon the Council the powers proposed in the Report, was withdrawn in favour of an amendment, moved by Mr. H. Vaughan Lanchester [*A.*] and seconded by Mr. Sydney B. Beale [*A.*], that in consequence of the limited scope of the reference to the Committee the adoption of the Report would be prejudicial to the interests of the Institute, and that the Report be referred back in order that the state of the Institute and its members might be more fully considered.

After considerable discussion, the adjournment of the Meeting was moved by Mr. Wm. Woodward [*A.*] and seconded by Mr. R. Phenè Spiers [*F.*]; but being lost upon a show of hands, a further discussion ensued, and it was ultimately agreed that the Meeting should be adjourned to Monday the 14th June, after the conclusion of the Business Meeting (Ordinary) summoned for that evening, it being understood that the views of members who supported Mr. Lanchester's amendment would be considered by the Council in the interim.

The proceedings then closed, and the Meeting separated at 10.40 p.m.

BUSINESS GENERAL MEETING.

At the Fifteenth General Meeting (Business) of the Session, held Monday, 14th June 1897, at 8 p.m., Mr. Aston Webb, F.S.A., *Vice-President*, in the Chair, the following members attending for the first time since their election were formally admitted and signed the respective registers, namely, Arthur Thomas Walmisley, *Hon. Associate*; and Everard Eastee Jordan and George Fox, *Associates*.

The Hon. Secretary announced the receipt of donations to the Library [see *Supplement*], and an expression of thanks to the several donors was ordered to be entered on the Minutes.

The Chairman read the Reports of the Scrutineers appointed by the Annual General Meeting [p. 344] to conduct the election of the Council and Standing Committees.* The following were declared to be the results:—

THE COUNCIL.

PRESIDENT.—Professor Aitchison, A.R.A. [unopposed].

VICE-PRESIDENTS (4).—William Milner Fawcett; Henry Louis Florence; Ernest George; Edward Augustus Gruning [unopposed].

HON. SECRETARY.—William Emerson [unopposed].

MEMBERS OF COUNCIL (18).—Aston Webb, 408 votes; James Brooks, 394; John Alfred Gotch, 370; John McKean Brydon, 366; Edward William Mountford, 363

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* The Scrutineers were Messrs. A. H. Kersey, John Norton, John S. Quilter, Hugh Staunus, and Frederick Todd, *Fellows*; R. Shekleton Balfour, Ernest R. Barrow, Sydney W. Cranfield, and H. Hardwicke Langston, *Associates*. The Report states that 496 Papers were received, and that 31 were set aside for informality.

John Belcher, 344; Alexander Graham, 336; Richard Phenè Spiers, 332; William Douglas Caröe, 331; Henry Heathcote Statham, 324; John Slater, 321; Paul Waterhouse, 321; Charles Hadfield, 306; Thomas Blashill, 301; Campbell Douglas, 294; Ralph Selden Wornum, 291; Thomas William Cutler, 283; Benjamin Ingelow, 280. Not elected: *William Young*, 273 votes; *Edwin Thomas Hall*, 272; *Keith Downes Young*, 267; *Joseph Oswald*, 257; *George Henry Bibby*, 196; *Delissa Joseph*, 170.

Associate-members of Council (2).—Arthur Smyth Flower, 327 votes; Edward Guy Dawber, 301. Not elected: *James Sivewright Gibson*, 251 votes.

Representatives of Allied Societies (8).—William Larkins Bernard (Bristol Society of Architects); Albert Nelson Bromley (Nottingham Architectural Society); Thomas Drew (Royal Institute of the Architects of Ireland); John Ely (Manchester Society of Architects); Leslie Ower (Dundee Institute of Architecture); Henry Perkin (York Architectural Society); Arnold Thorne (Devon and Exeter Architectural Society); Edwin Montgomery Bruce Vaughan (Cardiff, South Wales, and Monmouthshire Architects Society) [unopposed].

Representative of the Architectural Association (London).—Hampden William Pratt [unopposed].

[The above members declared to have been duly elected compose the Council.]

Auditors.—Edmund Woodthorpe, *Fellow*; Owen Fleming, *Associate* [unopposed].

THE STANDING COMMITTEES.

Art Standing Committee.

Fellows (10).—Ernest George, 427; James Brooks, 399; Alfred Waterhouse, 393; John McKean Brydon, 392; John Belcher, 387; Edward Mountford, 387; Beresford Pite, 375; John Macvicar Anderson, 370; William Douglas Caröe, 353; William Young, 306. Not elected:—*William Samuel Weatherley*, 282.

Associates (6).—Robert Shekleton Balfour, 369; Henry Thomas Hare, 359; Edward Guy Dawber, 357; James Sivewright Gibson, 325; John William Simpson, 303; Owen Fleming, 278. Not elected:—*William Henry Romaine-Walker*, 267; *William Arthur Webb*, 246.

Literature Standing Committee.

Fellows (10).—Richard Phenè Spiers, 369; Alexander Graham, 365; William Alfred Pite, 356; Paul Waterhouse, 354; Benjamin Ingelow, 331; Henry Louis Florence, 327; Charles Harrison Townsend, 319; Sydney Smirke, 302; John Tavenor Perry, 293; William Frederick Unsworth, 269. Not elected:—*Francis Edward Caws*, 242; *George Henry Bibby*, 238; *John Hebb*, 220.

Associates (6).—Andrew Noble Prentice, 384; Percy Scott Worthington, 378; Arthur Smyth Flower, 365; P. Leslie Waterhouse, 356; Ravenscroft Elsey Smith, 342; Arthur Thomas Bolton, 322. Not elected:—*Banister Flight Fletcher*, 253.

Practice Standing Committee.

Fellows (10).—Samuel Flint Clarkson, 376; Joseph Douglass Mathews, 370; Walter Hilton Nash, 365; Thomas Batterbury, 362; Lacy William Ridge, 359; Edwin Thomas Hall, 358; Edmund Woodthorpe, 351; Alexander Henry Kersey, 341; Henry Cowell Boyes, 331; Thomas Harris, 314. Not elected:—*James Osborne Smith*, 302.

Associates (6).—Henry Thomas Hare, 339; W. H. Atkin Berry, 332; Francis Thomas Wilberforce Goldsmith; 312; Augustus William Tanner. 297; Frederick Henry Appleton Hardcastle, 283; George Richards Julian 283. Not elected:—*Robert Stark Wilkinson*, 273; *Thomas Edward Mundy*, 263.

Science Standing Committee.

Fellows (10).—Percival Gordon Smith, 390; William Howard Seth-Smith, 388; Lewis Angell, 381; William Charles Street, 380; Keith Downes Young, 380; Herbert Duncan Searles-Wood, 376; Frederic Richard Farrow, 372; John Salmon Quilter, 356; Benjamin Tabberer, 326; Lewis Solomon, 321. Not elected:—*Delissa Joseph*, 233.

Associates (6).—Robert Langton Cole, 434; Henry William Burrows, 410; Max Clarke, 406; Matthew Garbutt, 402; George Pearson, 401; Bernard John Dicksee, 391.

On the motion of the Chairman, a cordial vote of thanks was passed to the Scrutineers for their services in conducting the elections.

ELECTION OF MEMBERS.

The following candidates for membership were elected by show of hands, under By-law 9, namely:—

As Fellows (4).

EDWARD ALBERT RAM (Hong Kong).
STANLEY PERCY SILCOCK [*A.*] *Qualified as Associate* 1888 (Warrington).
GEORGE ELEY HALLIDAY (Cardiff).
FRANCIS GEORGE FIELDER HOOPER [*A.*], *Qualified as Associate* 1882, *Pugin Student* 1882, *Godwin Bursar* 1888.

As Associates (5).

EDWARD ALBERT JOLLYE [*Qualified* 1888].
EDWARD HARDING PAYNE [*Qualified* 1896].
EDWIN NICHOLSON [*Probationer* 1890, *Student* 1892, *Qualified* 1895].
JAMES SAUNDERS [*Qualified* 1892] (Oldham).
HUGH THOMAS PORTER [*Qualified* 1896].

As Hon. Associates (3).

HENRY WILLIAM BREWER.
J. LEWIS THOMAS.
SIR JAMES DROGMORE LINTON, President of the Royal Institute of Painters in Water Colours.

As Hon. Corr. Members (3).

JEAN JACQUES WINDERS (Antwerp).
ALEXANDRE CHARLES ARTHUR, COMTE DE MARSY (Compiègne, France).
JEAN THÉOPHILE HOMOLLE (Paris).

The Meeting then terminated.

ADJOURNED SPECIAL GENERAL MEETING.

THE FELLOWS QUESTION.

At the Adjourned Special General Meeting, held Monday, 14th June 1897, at 8 p.m., Mr. Aston Webb, F.S.A., *Vice-President*, in the Chair, the Minutes of the Meeting held 31st May 1897 [p. 394] were read and signed as correct.

The Chairman opened the proceedings with a statement detailing the reasons for the appointment of the Fellows Committee, briefly sketched the proceedings at the meetings of the Committee and the conferences with Allied Societies, and concluded with a description of the modifications introduced into the Report by the Council in deference to the views expressed by members at the meeting of the 31st ult.

Mr. H. Vaughan Lanchester [*A.*] having withdrawn the amendment moved by him at the last Meeting, that the Report be referred back to the Council, the various clauses of the Report were discussed *seriatim*, with the result that it was

> Resolved, That the form of voting-papers be altered, so that the names on the list voted against have to be crossed out.

It was further

> Resolved, That attention be called to the requirements of the Council as to the drawings, &c., to accompany an application for Fellowship.

It was further

Resolved, That it is desirable that Associates who are eligible should come forward for election as Fellows.

It was further

Resolved, That when the Council of the Institute receive a unanimous recommendation formally submitted by the Council of any Allied Society that a practising member of the profession in their district is eligible and worthy of being elected a Fellow, the Council shall have the power to elect him, his work being of sufficient merit. [*See addendum to this Resolution below.*]

On this and the two following Resolutions, the Chairman ruled that, under the terms of the Charter, Associates were debarred from voting: the vote therefore was restricted to Fellows.

It was further

Resolved, That power be given to the Council to admit annually to the Fellowship, without ballot, the President or President-elect of any or all of the Allied Societies who are eligible and apply for admission.

It was further

Resolved, That the Council dispense with the payment of an entrance fee in the case of non-Metropolitan Fellows during the pleasure of the Council.

It was further

Resolved, That a room be utilised as a tea and smoking room, and that no books from the Institute Library be consulted therein with the exception of periodicals and the professional journals.

It was further

Resolved, That it is desirable to hold periodical conferences, meetings, and dinners, a certain proportion thereof to take place in the provinces, with a view to promoting more friendly intercourse with the Allied Societies.

It was further

Resolved, That the Allied Societies be invited to arrange, when possible, the date of election of their officers and the duration of their Sessions, so as to correspond with those of the Institute.

The Chairman, having moved the adoption of the Report as altered and amended, and a section of the Meeting being opposed to the passing of the Resolution numbered 5 in the Report (fourth on the amended list set out above), suggested the limitation of the power to elect conferred on the Council by that clause to a period of five years. The clause was then added to as follows: "*And further that the operation of the By-law embodying this Resolution be limited to a term of five years.*" The Report was then put as a whole, and carried by forty-four votes to twenty-five.

The alterations in the By-laws required to carry out the Resolutions arrived at were hereupon put to the Meeting, and it was

Resolved, That the following paragraph be added to By-law 9:—

Provided always that when the Council of the Institute receive a unanimous recommendation formally submitted by the Council of any Allied Society that a practising member of the profession in their district is eligible and worthy of being elected a Fellow, the Council shall have power to elect him, his work being of sufficient merit, and that the operation of this provision be limited to a term of five years. The Council may also admit annually to the Fellowship, without ballot, the President or President-elect of any or all of the Allied Societies who may be eligible and apply for admission.

It was further

Resolved, That clause (*a*), By-law 15, be added to as follows:—

Provided always that the Council may, during their pleasure, dispense with the payment of an entrance fee in the case of non-Metropolitan Fellows.

A motion by Mr. Seth-Smith, that a further Resolution [see p. 394] be added to the Report, not being seconded, was dropped.

The proceedings then closed, and the Meeting separated at 10.30 p.m.

ALLIED SOCIETIES.

OFFICERS AND COUNCILS 1897–1898.

The Leicester Society.

President, Mr. Charles Baker; *Council*, Messrs. J. Goodacre [*F.*], A. H. Paget [*F.*], A. E. Sawday [*F.*], T. H. Fosbrooke, H. L. Goddard [*A.*], and H. H. Thomson [*A.*]; *Hon. Treasurer*, Mr. Stockdale Harrison [*F.*]; *Hon. Secretary*, Mr. S. Perkins Pick [*A.*].

The Manchester Society.

President, Mr. John Ely [*F.*]; *Vice-Presidents*, Messrs. R. I. Bennett [*F.*] and J. H. Woodhouse [*F.*]; *Hon. Secretary and Treasurer*, Paul Ogden [*F.*]; *Assistant Hon. Secretary*, Mr. Edward Hewitt [*F.*]; *Members of Council*, Messrs. T. Chadwick [*A.*], A. H. Davies-Colley [*A.*], Charles Heathcote [*F.*], John Holden [*F.*], R. Knill Freeman [*F.*], F. W. Mee [*F.*], J. D. Mould [*A.*], W. A. Royle [*F.*], Edward Salomons [*F.*], J. S. Hodgson, H. E. Stelfox [*A.*], and P. S. Worthington [*A.*].

The Northern Association.

President, Mr. F. W. Rich; *Vice-President*, Mr. W. Glover; *Hon. Treasurer*, Mr. J. T. Cackett [*F.*]; *Hon. Secretary*, Mr. A. B. Plummer [*F.*]; *Hon. Solicitor*, Mr. H. C. Harvey; *Hon. Librarian*, Mr. H. C. Charlewood [*A.*]; *Council*, Messrs. G. T. Brown (Hon. Local Secretary for Sunderland), A. M. Dunn, R. B. Dick, C. S. Errington [*A.*], W. S. Hicks, R. J. Leeson, C.C., J. H. Morton [*F.*] (Hon. Local Secretary for S. Shields), J. Oswald [*F.*], T. Reay and J. W. Taylor [*F.*]; *Hon. Auditors*, Messrs. J. W. Donald [*A.*] and W. E. Fenwicke.

The Nottingham Society.

President, Mr. A. N. Bromley [*F.*]; *Vice-President*, Mr. A. H. Goodall; *Council*, Messrs. W. A. Heazell [*F.*], H. Walker [*F.*], Arthur Marshall [*A.*], A. Ernest Heazell, and J. Sander; *Auditors*, Messrs. A. W. Brewill [*F.*] and J. Sander; *Hon. Secretary and Treasurer*, Mr. Robert Evans, jun.

The Sheffield Society.

President, Mr. R. W. Fowler; *Vice-President*, Mr. Joseph Smith; *Treasurer*, Mr. F. Fowler; *Hon. Secretary*, Mr. C. J. Innocent [*F.*]; *Council*, Messrs. A. Smith Denton, H. W. Lockwood, W. F. Hemsoll, T. Winder, and W. C. Fenton.

LEGAL.

Mr. William Hewson Lees [*A.*] writes:—In the Journal for May 20 there is a note of a case under "Legal"—*Regina* v. *The London County Council*—in which it is incorrectly stated that the land in Deptford was unbuilt on, and that the surveyor in his certificate treated the enclosing fence as a structure. Permit me to point out that the land in question was a large rambling piece of ground with several buildings and structures thereon, and was bounded on the side in dispute by a wooden fence. A certificate was applied for under sect. 13 (5) of the Building Act, and this was given by me, the land being occupied by buildings, and the line of fence was marked by dimensions taken from the opposite side of the street.

PRESENTATION OF THE ROYAL GOLD MEDAL TO DR. P. J. H. CUYPERS

AT THE SIXTEENTH GENERAL MEETING, MONDAY, 28TH JUNE 1897.

ADDRESS BY THE PRESIDENT, PROFESSOR AITCHISON, A.R.A.

YOUR EXCELLENCY, BROTHER ARCHITECTS, LADIES, AND GENTLEMEN,—

THE last Monday in June is always a day when the members of the Institute feel proud and happy—happy because our meeting is graced by the presence of ladies, of distinguished visitors, and of old friends; and proud because it is the occasion when Her Majesty the Queen is gracious enough to show her interest in Architecture by giving her Gold Medal to a distinguished architect or writer. There is additional exhilaration this evening, on account of Her Majesty's Diamond Jubilee, when the whole Empire has rejoiced, and been thankful for the increase of liberty, knowledge, peace, and plenty under her fostering care, and for the example of the virtues she has shown; but also because the Medal is to be bestowed on a foreign architect, for this shows the breadth of Her Majesty's views and the largeness of her sympathies. Our great art, that Aristotle calls one of the master arts of the world, rules over a wide domain, for wherever man has cultivated his intellect and faculties and raised his contemplation to a Supreme Being, sublime temples have been raised. In contemplating the glorious and captivating domain of art, we are taken out of ourselves, and not only feel the ennobling flame that the fine arts kindle within us, but are forcibly reminded of the brotherhood of man. More than half of our solaces and delights are due to the great creators and discoverers who lived in remote ages, and in countries it has perhaps never been our good fortune to visit, though we now have the glories of architecture brought home to us, through the arts of drawing, engraving, and photography.

However we may be delighted with the works of Nature, which she has sculptured and painted for our solace and instruction, however greatly we may be moved by the sublimity of her mountains or awed by the resistless force of her waters, there is a charm about architecture that touches us more closely, for in its works we see forms of beauty designed by man for man's delight; while the colossal structures that man has created, though insignificant as compared with Nature's works, still astonish us, for they recall to our minds that they have been the works of countless pigmies like ourselves, raised to excite emotions that still tell of the builders' gratitude to superior powers. Even the Pyramids raised to the rulers of Egypt, whose outlines break the long line of the desert, show rather thankfulness for the honour once bestowed on their occupants than the pride of kings. The charms of certain masterpieces of architecture are not to be effaced from the memory, and vie with the recollection of Nature's beauties, if they do not surpass them. I may mention the matchless perfection of the temples that crown the Acropolis of Athens, the hoary majesty of Nerva's Forum, the sublimity of the interior of the Pantheon, the vastness, richness, and striking forms of Santa Sophia and of that jewelled casket St. Mark's, as well as the more refined features of the Palazzi Vendramin, Manzoni, and Cornaro-Spinelli, the Scuola di San Marco and the churches of Santa Maria della Salute at Venice, and Santa Maria dei Miracoli at Brescia, while the wonders of the cloud-piercing fronts and spires of the Mediæval churches are equally ineffaceable.

Architecture not only throws a lustre on the reigns of kings, but in the monuments it erects, sums up more completely than any other art, the cultivation and tendencies of the nation, keeps its memory green, and when its glory has departed, and all else has been swept away, still points to the greatness and intelligence of its people.

I have now to introduce to you the distinguished Dutch architect, Dr. Cuypers, on whom you are about to bestow the Gold Medal. It is usual to give a slight sketch of the life and works of the Gold Medallist in the interest of those who cannot be here—and many of those who would be here to-night are in the uttermost parts of the earth. So I must ask Dr. Cuypers to bear with me a little longer.

I can hardly think of Holland as a foreign country, so intimate has been the relation between it and England—for did not Holland give us one of our revered Kings, William of Orange, and many of our celebrated families?—and so warm is still our sympathy with its soul-stirring efforts in the cause of freedom. Most of us when at school translated Grotius and the dialogues of Erasmus, that friend of Sir Thomas More, whom he called "his darling." Who does not love the Dutch school of painting, and feel at home with its creations? Who has not been enchanted by the power of Rembrandt and the vigour of Frank Hals, with the crystal purity of the colour of Peter de Hooge, with the woods of Hobbema, the rushing waters of Ruysdael, and the beautiful architectural works of Van der Heyden? Who has not been fascinated by the dignity of those warriors and statesmen, and by the grace and loveliness of those high-born ladies that live for us again in the pencil of Van Dyck; who has not in imagination shared in the hardships and rejoicings of such discoverers as Van Diemen and Tasman?

Dr. Cuypers follows a long line of distinguished Dutch architects to whom we owe the admired Mediæval churches, town halls, and mansions, as well as the wondrous Cathedral of Antwerp; and in Renaissance days, the Villa Borghese and the Portal of the Vatican, designed by Van Santen, under the name of Vasanzio, for Pope Paul V., when Floris, Philip Vingboons, Van Campen, and Post enriched their native country with their works, and Henrick built our Royal Exchange for Sir Thomas Gresham, all of which have been presented to us in the publication of Mr. Ysendyck. It is not usual to give the age of our Gold Medallist, but on this occasion the arrival of Dr. Cuypers' seventieth birthday this year has been the cause of almost national rejoicings in Holland; this points to something in his personality and career that has touched the hearts of his compatriots in a way that no mere quantity or excellence of his works could ensure.

Dr. Petrus Josephus Hubertus Cuypers was born on 16th May 1827 at Roermond. In his nineteenth year he became a student at the Antwerp Academy, and got the prize for excellence, and the gold medal for architecture in 1849. He began his practical career by the restoration of the Minster of Our Lady in his native town, and built his first church in 1853. In 1864 he was awarded a crown for the William I. Museum, and up to 1894 he had built a cathedral and sixty-one churches and chapels; he had restored fifty-seven ecclesiastical buildings, mostly cathedrals and churches, and built museums, railway stations, mansions, villas, private houses, and monuments, besides his great work of the Royal Museum at Amsterdam, some 450 feet long and 280 feet deep, with a central hall 70 feet wide and 260 feet long; the whole building comprising two quadrangles 130 feet long and 100 feet wide: it is built of brick with stone window jambs, mullions, and bands. The style adopted is late Gothic, just feeling the first breath of the Renaissance when cusps had been abandoned. This, however, is by no means all we have to be thankful for, as he started schools all over Holland where the innumerable handicraftsmen, who carry out architecture, were taught the elements of design belonging to their crafts.

His motto is, "I believe, I love, I hope," and he says, "The love which binds together my beliefs and my hopes makes up my life." In his own house he has inscribed an apothegm of architectural wisdom: "Study the old, in order to win strength and support to design the new."

It is clear that any architect who had carried out such an enormous mass of work must have been guided by fixed principles systematically employed; and when no detail has been allowed to pass without his own supervision, and is mostly from his own hand, it is obvious that his industry must be equal to his genius.

Sir, you are said by your contemporaries to be the one man in Holland who has done more than any other to point the way to higher things, and to follow out his own teaching. I gather from the admiration that you excite in Holland that your character is as much revered and loved as your genius is admired, for without the existence of peculiarly admirable qualities we cannot believe that you would have so endeared yourself to your countrymen, for you have falsified the poet's saying that—

> "He who surpasses or subdues mankind,
> Must look down on the hate of those below."

I now beg in the name of the Royal Institute of British Architects to invest you with Her Majesty the Queen's Gold Medal, and to enrol you amongst that company of Gold Medallists that sheds such lustre on our Institute and on our country, and to hope, both on behalf of the Institute and myself, that you may, like so many great architects, live long to enjoy the honours you have so well merited, and the love that you have called forth, and to add to the number of those works with which you have already so largely adorned your native land.

DR. CUYPERS' REPLY.*

Monsieur le Président,—

PERMETTEZ-MOI de m'exprimer dans une autre langue que votre langue nationale, que j'apprécie et vénère profondément, mais que je croirais profaner en la parlant d'une manière imparfaite dans cette auguste assemblée. La mienne propre, la langue néerlandaise, tout en ayant en partie une base commune avec la vôtre, dans le vieux saxon, qui, sans Charlemagne, serait devenue la langue germanique ou tudesque universelle, n'est connue que d'une minime partie des habitants de la Grande-Bretagne, et ne saurait donc me faire comprendre dans cette enceinte. J'ai recours à la langue française, qui a de nombreuses connexions avec la vôtre, témoins les dénominations des provinces de Normandie et de Bretagne en France, et qui, comme l'anglaise, mais moins que celle-ci, retentit aux contrées les plus éloignées du globe terrestre, partout où la civilisation et la liberté ont établi leur règne glorieux.

J'éprouve le besoin, M. le Président, de vous exprimer d'abord et avant tout mes sincères remercîments pour les paroles trop bienveillantes, trop flatteuses que vous avez bien voulu m'adresser.

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* [TRANSLATION.]

Mr. President,—Allow me to express myself in another language than in your national tongue, which I deeply appreciate and revere, but would fear to profane by speaking imperfectly before this august assembly. My own Dutch speech, although it partly has a common base with yours, in that old Saxon which, had it not been for Charlemagne, would have become the universal Germanic or Teutonic language, is familiar to only a minority of the inhabitants of Great Britain, and would not suffice to render me intelligible in this chamber. I have recourse to the French language, which has numerous relations with yours—witness the denominations of the provinces of Normandy and Brittany in France—and like English, but in a less degree, is heard in the most distant countries of the terrestrial globe, everywhere that civilisation and liberty have established their glorious reign.

I feel, Mr. President, that I must, before and above all, express to you my sincere thanks for the words, too kindly and too flattering, which you have been good enough to address to me.

S'il est vrai que toute approbation de nos travaux flatte notre amour-propre, que ne doit-on pas éprouver de satisfaction quand cette approbation nous vient de la part de ceux de nos collègues à qui nous avons réservé une place d'honneur dans notre estime et dans notre vénération ?

Oui ! j'ose le dire publiquement et solennellement à cette heure, si j'ai eu quelque succès dans ma carrière d'architecte, l'exemple qui m'a été donné par mes confrères britanniques y a contribué pour beaucoup.

Quand j'ai visité pour la première fois l'Angleterre pour y étudier les grands monuments de nos voisins, ce n'étaient pas seulement les anciennes et majestueuses cathédrales, les églises caractéristiques des petites villes et des villages, les splendides collèges et autres monuments des temps passés qui m'ont ravi et profondément impressionné, mais ce furent surtout les sages leçons que mes honorés confrères Pugin, Scott, Street, Burges, Clutton, et tant d'autres, pour ne parler que de ceux qui nous ont précédés dans l'éternité, avaient tirées de l'œuvre des grands architectes du moyen âge et de l'antiquité.

C'est ici que j'ai vu appliquer, avec ce goût juste et rationnel qui caractérise votre glorieuse nation, les bons, les véritables et immuables principes de notre art, qui doit être vrai, utile et pratique, tout en ne péchant jamais contre les règles si délicates de la Beauté que Dieu a mis en nous pour être l'immuable apanage de ceux qui cultivent les arts.

C'est surtout dans votre patrie, mes chers confrères, que j'ai appris à faire valoir à sa juste valeur le charme qui résulte d'une application juste et persevérante de la différence des matériaux tant pour ce qui regarde leurs propriétés, leur nature, leurs qualités que pour ce qui a rapport à la couleur, etc. C'est ici que j'ai pu apprécier les grands avantages qui résultent de la conservation des anciennes corporations des arts et métiers, par lesquelles vous avez pu maintenir pour l'exécution de vos travaux des ouvriers pratiques et capables, dignes de la part du travail qui leur est confié.

C'est dans votre pays plus que partout ailleurs que j'ai constaté et admiré l'heureuse application des bons principes des temps passés aux besoins de la société moderne, dans toutes les œuvres de vos grands maîtres.

Si d'un côté votre beau et intéressant pays, avec ses riches monuments et sa grande architecture raisonnée, m'attirait, d'autre part l'accueil que me firent mes chers confrères dès ma première visite a été tel que j'ai pu profiter de tous les avantages que l'amitié et l'urbanité peuvent présenter.

If it is true that all approbation of our work flatters our pride, what satisfaction must we not feel when this approbation comes from those of our colleagues for whom we have reserved a place of honour in our esteem and our veneration?

Yes, at this hour I dare publicly and solemnly say that, if I have had any success in my career as an architect, the example which has been given me by my colleagues in Great Britain has greatly contributed to it.

When I visited England for the first time, so as to study the great monuments of our neighbours, it was not only the ancient and majestic cathedrals, the characteristic churches of little towns and villages, the splendid colleges, and other monuments of bygone ages, which delighted and deeply impressed me, but, above all things, the wise lessons which my honoured colleagues Pugin, Scott, Street, Burges, Clutton, and so many others—only to speak of those who have gone before us into eternity—had drawn from the work of the great architects of the Middle Ages and of antiquity.

It was here that I saw applied, with that correct, sober taste which characterises your glorious nation, the pure, true, and unchangeable principles of our art, which must be true, utilitarian, and practical, and at the same time not offend against those elusive canons of Beauty wherewith God has endowed us, to be the immutable appanage of those who cultivate the arts.

It was particularly in your country, my dear colleagues, that I learned to estimate at its just value the charm which proceeds from correct and persevering application of the difference between materials, as much with respect to their properties, nature, and qualities, as with respect to their colour and other æsthetic features. It was here that I learned to appreciate the great advantages that result from the survival of the old co-operative guilds of arts and crafts, by which you have been able to maintain for the execution of your works practical and capable craftsmen, worthy of the share in the work that is entrusted to them.

It was in your country more than anywhere else that I noted and admired the happy application of the good principles of the Past to the needs of modern society, in all the works of your great masters.

If on the one hand your fair and interesting land attracted me, with its rich monuments and its great analytical architecture, on the other the welcome given me by my dear colleagues, from my very first visit, was such that I was able to profit by all the advantages that

Si les anciens maîtres étaient là pour m'instruire et pour stimuler mon ambition par la contemplation et l'étude de leurs chefs-d'œuvre des grandes époques, les jeunes, leurs dignes émules, me prêtaient leur secours en me faisant pénétrer et en me servant de guides dans toutes les enceintes remarquables, dans tous les musées célèbres, dans le secret de tous les sanctuaires de l'art.

C'est dans l'année 1866 que j'eus l'honneur d'être nommé " membre correspondant de l'Institut Royal des Architectes Britanniques," un titre qui est en haute estime à l'étranger, et qui lui seul donne une certaine considération à tout architecte.

Et qui s'en étonnera si l'on sait que cette noble Institution Royale est la grande école où s'est formé et se forme encore tout ce que l'Angleterre a produit de glorieux et d'illustre en fait d'Architecture ?

La conservation et la restauration des monuments historiques de vos ancêtres, l'imitation, l'assimilation des constructions nouvelles aux modèles antiques, la formation d'une légion d'artistes combattant sans jamais lâcher pied, les erreurs de tout genre dont le mauvais goût de certaines époques menaçait le sanctuaire de l'art : voilà le premier fruit de cette glorieuse Institution.

Un autre grand service rendu par vous au monde artistique tout entier ce sont les voyages importants que vous avez entrepris pour étudier les monuments des pays les plus lointains, sans égard aux sacrifices de tout genre que de pareilles entreprises entraînent inévitablement.

Les publications remarquables, où sont consignés les résultats de ces pérégrinations artistiques, sont et resteront un monument glorieux de votre Institut Royal.

Si en ce jour j'ai cru devoir rendre hommage à l'Institut pour les grands services qu'il a rendus au monde artistique en général vous voudrez bien me croire, mes honorés confrères, si j'ajoute que je me sens doublement heureux de pouvoir vous exprimer ma vive reconnaissance pour l'insigne honneur dont vous m'avez gratifié.

J'ose prier l'honorable Président de bien vouloir se faire l'interprète du confrère étranger auprès de sa Majesté la Reine d'Angleterre, afin de lui exprimer ma profonde reconnaissance de ce qu'elle a daigné ratifier le choix de l'Institut en m'honorant de la médaille d'or, l'année même où tant de millions de sujets fidèles bénissent le Ciel de leur avoir donné pour souveraine la femme la plus accomplie qui ait jamais ceint une couronne.

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friendship and urbanity can offer. If the old masters were there to instruct me and to stimulate my ambition by the contemplation and the study of the masterpieces of great periods, the living masters, their worthy rivals, gave me their aid in procuring me access to, and serving as my guides in all hidden nooks of interest, in all celebrated museums, in the innermost of all sanctuaries of art.

It was in 1866 that I had the honour of being elected Honorary Corresponding Member of the Royal Institute of British Architects, a title which is held in high esteem abroad, and in itself gives a certain influence and position to any architect.

And who will be astonished if it is known that this noble Royal Institute is the great school in which has been and is still being formed all that England can produce of that which is glorious and illustrious in architecture ?

The preservation and the restoration of the historic monuments of your ancestors, the imitation of ancient models, the assimilation therewith of new buildings, the formation of a legion of artists fighting, without ever losing ground, against those errors of every kind with which the depraved taste of certain periods threatened the sanctuary of art—these are the first-fruits of this glorious institution.

Another great service rendered by you to the whole artistic world is to be found in the important travels that you have undertaken so as to study the monuments of the most distant countries, without regard to the manifold sacrifices that such enterprises inevitably entail.

The remarkable publications in which are printed the results of these artistic peregrinations are, and will remain, a splendid memorial of your Royal Institute.

If on this day I have thought it behoved me to pay homage to the Institute for the great services which it has rendered to the artistic world in general, I will beg you to believe me, my honoured colleagues, when I add that I feel doubly happy in being able to express to you my keen appreciation of the distinguished honour with which you have gratified me.

I venture to request the honourable President to be kind enough to act as interpreter for his foreign colleague before Her Majesty the Queen of England, in order to express to her my deep gratitude for the fact that she has deigned to confirm the choice of the Institute by honouring me with the Gold Medal, in the very year when so many millions of faithful subjects are blessing Heaven for having given them as a sovereign the most accomplished woman who has ever worn a crown.

9, Conduit Street, London, W., 1st *July* 1897.

CHRONICLE.

The Diamond Jubilee Address.

To the Queen's most Excellent Majesty.

The dutiful and loyal Address of the President, Council, and General Body of the Royal Institute of British Architects.

Most Gracious Sovereign,—

We, your Majesty's most devoted subjects, respectfully tender to your Majesty our heartfelt and loyal congratulations on the happy completion of the year that makes your Majesty's glorious reign the longest enjoyed by any English monarch.

We desire to express our grateful recognition of the gracious patronage which your Majesty has continuously bestowed upon the Royal Institute of British Architects, whereby we have been enabled singularly to increase our sphere of usefulness; and, as a representative body, we furthermore desire to submit to your Majesty our deep sense of the unfailing encouragement which your Majesty has given to the pursuit of architecture by the bestowal of an annual gold medal on the distinguished architects and architectural writers of all countries, and to point to the many splendid architectural achievements in this country, mentioning only two such great works as the Houses of Parliament in Westminster and Saint George's Hall in Liverpool, as lasting memorials of your noble reign.

We humbly and earnestly pray that your Majesty may be spared long to promote, besides virtue and liberty, the cultivation of the Great Arts of Life, whose free development has been among the countless inestimable blessings which have accrued from your Majesty's beneficent guidance of the destinies of this Great Empire.

Signed and sealed at a Meeting of the Royal Institute of British Architects, held in their rooms at 9 Conduit Street, Hanover Square, London, this seventeenth day of June, in the year of our Lord one thousand eight hundred and ninety-seven.

George Aitchison, *President.*
Henry L. Florence, *Vice-President.*
Aston Webb, *Member of Council.*
William Emerson, *Hon. Secretary.*
W. J. Locke, *Secretary.*

Thomas Drew,
President Royal Institute of Architects of Ireland.
William Henman,
President Birmingham Architectural Association.
W. L. Bernard,
President Bristol Society of Architects.
E. M. Bruce Vaughan,
President Cardiff, S. Wales, and Monmouthshire Soc.
Arnold Thorne,
President Devon and Exeter Architectural Society.
Leslie Ower,
President Dundee Institute of Architecture, &c.
John James Burnett,
President Glasgow Institute of Architects.
George Corson,
President Leeds and Yorkshire Architectural Society.
Charles Baker,
President Leicester Society of Architects.
W. E. Willink,
President Liverpool Society.
John Ely,
President Manchester Society of Architects.
Frank W. Rich,
President Northern Architectural Association.
Albert N. Bromley,
President Nottingham Architectural Society.
Reginald W. Fowler,
President Sheffield Society of Architects.
George Benson,
President York Architectural Society.

The Institute was represented at the Special Thanksgiving Service held at St. Paul's Cathedral on the 20th ult. by the President and chief honorary officials, seats having been courteously reserved for the purpose by the Dean. On the Diamond Jubilee night, the 22nd ult., the Institute premises were illuminated by rows of gas-jets following the chief architectural features of the façade.

Presentation of the Royal Gold Medal 1897.

The Royal Gold Medal was presented to Dr. P. J. H. Cuypers [*Hon. Corr. M.*], of Amsterdam, on the evening of Monday, the 28th ult., before a large gathering of members of the Institute, ladies, and other guests. His Excellency the Baron van Goltstein, Minister from the Court of the Netherlands, honoured the proceedings with his presence. Amongst other visitors may be mentioned Mynheer Joseph Cuypers, the son of the presentee, and himself an architect of distinction, having built Haarlem Cathedral; Herr Muthesius, architect to the German Embassy; and Mr. Sydney Lee, the editor of the *Dictionary of National Biography.* The nine surviving Gold Medallists were represented by Mr. James Brooks, and the Hon. Associate class by Mr. Alma Tadema, R.A., Professor Baldwin Brown, and Mr. Hugh Leonard. Letters expressing regret that previous engagements prevented their attending the function were read from two past Gold Medallists, Sir Arthur Blomfield, A.R.A., and Mr. Alfred Waterhouse, R.A., LL.D., the former expressing his sincere and hearty admiration for Dr. Cuypers and his works, and observing that "every one must rejoice at the selection of so great and good a man for the honour"; and the latter referring to Dr. Cuypers as "a very worthy recipient of the Queen's Medal." The President having invested Dr. Cuypers with the Medal, and Dr. Cuypers having made a graceful acknowledgment in French, the proceedings terminated, and the company adjourned to the Council-room for talk and refreshments.

Photographs and prints of some of the more important of Dr. Cuypers' works, notably of the National Museum of Amsterdam, were exhibited on the walls of the Meeting-room. Some exceedingly clever drawings made by Mr. H. S. East [*A.*] during his recent visit to Spain as the Aldwinckle Travelling Student for 1896 were also exhibited, and will remain on view until the close of next week.

Dr. Cuypers, Royal Gold Medallist 1897.

Pierre Joseph Hubert Cuypers was born at Roermond, capital of the Duchy of Limburg, on 16th March 1827. He was a member of a numerous family, and his father practised painting in his leisure hours. He finished his studies at the Episcopal College of his native town; it was the Principal of this College who induced him to choose for himself a career in which taste and reason could unite—namely, architecture. In the year 1847 he entered the Royal Academy of Antwerp, where he distinguished himself exceedingly by carrying off the first medals in architecture, whilst at the same time he had pursued a course of study in painting and sculpture. The tendency of this Academy lay almost exclusively in the so-called classic traditions. His first years passed at Roermond, in constant contact with the marvellous church of Notre-Dame, built in 1206, revealed a young architect with principles quite different from those with which the teachings of his professors had lit his horizon. His travels along the Rhine and in the north of France, whilst he made at the same time the acquaintance of artists who had the charge of ancient monuments, like Viollet-Le-Duc, showed him the deep meaning that exists in the whole development of the arts of the Middle Ages. From that moment he learnt to distinguish between the exterior aspect and the underlying principle of what had been produced by the Germanic races, independently of Græco-Roman influences.

From the commencement of his career he conceived the necessity of absolute harmony between the arts of painting, sculpture, and architecture. In order to prove the superiority of this system in practice, he founded, with Mr. Stoltzenberg, a workshop of the different branches, namely, woodwork, sculpture, and painting, to which his partner added copper-working and embroidery. One may easily imagine the results of this enterprise. The architect, who not only was nominally chief, but had really a hand in everything that his sixty workmen produced in every department, displayed, together with unflagging energy, a great respect for the technical qualities of the materials used in these varied crafts. Even later, in the great public works which he directed, all the details invariably came from his own hand, and what his pupils executed never escaped without the Master's corrections. His influence at first was particularly shown in the domain of ecclesiastical architecture. At the same time, contact with the old basilicas brought him nearer to the technique and the conceptions of past centuries. He became an expert in Mediæval work in Holland, Belgium, and Germany. The Government appointed him to the new Commission on Historical Monuments, and for twenty-five years he was the adviser of the Government under the different Ministries which have followed one another. Settling down in 1865 at Amsterdam, the architect found an opportunity for developing his energies in domestic architecture. All the quarter of Vondelstraat, with its graceful, picturesque church, owes its smiling aspect to the influence of the architect Cuypers. So when the architect celebrated his seventieth anniversary on March 16th last, the whole town was decorated in his honour, and all the periodicals of the country, from daily newspapers to reviews, had articles more or less extensive on his career. Each of these articles presents him under a different light: the builder, who always employed the best methods ancient and modern; the architect, who made it his business to educate the workmen by explaining to them the best manner of doing their work; the decorator, who first introduced mural painting into the public buildings of his country; the learned and delicate restorer, who more than any other man respects the monuments and subordinates his personality to all that remains of their primitive condition; the professor, as unwearying in his lecture-room as in his architect's office; the toiler, as assiduous in his workshop as in the council-room, and on technical or artistic commissions when the question arises of the welfare or elevation of the workman and his handiwork.

It was particularly in this last character that our Royal Gold Medallist was fêted at Roermond, where the sixty artists of the workshop, in concert with the ecclesiastical and communal authorities, namely, the Bishop and the Mayor, had arranged a public celebration which lasted for days and re-echoed throughout Holland.

The list of his architectural works would be too long to enumerate, and in this case one would necessarily have to add a catalogue of the furniture, utensils, works in metal and every other material, of which several have an artistic value as great as the plan of a house. The numerous titles, medals, decorations, and honorary distinctions, the enthusiasm which preceded the above-mentioned fête, make a more eloquent eulogy than any enumeration. The Government has issued a publication from the Royal Museum of Amsterdam of the later works of this distinguished architect.

M. Lucas and the New Hon. Corr. Members.

The following is an extract from a letter of M. Ch. Lucas [*Hon. Corr. M.*] to the President :—

> "La médaille d'or du R.I.B.A. à M. Cuypers est admirablement donnée, et, si j'étais présent à la remise, j'y applaudirais des deux mains, connaissant ses œuvres d'Amsterdam ; en attendant j'ai été ravi de vos nominations de Hon. et Corr. de MM. Homolle, de Marsy et Winders : le premier, il y a vingt ans, fouilla Délos avec une subvention de la Société Centrale, dont les premiers cents francs furent réunis par moi à la suite d'une Conférence Archéologique faite en 1897 à l'Hémicycle des Beaux-Arts ; le second, le comte de Marsy, est un ami de trente ans, et le troisième est un ami d'au moins quinze ans. Ce sont, soyez-en persuadé, en dehors de toute sympathie de ma part, d'excellents choix bien dignes des précédents faits par le R.I.B.A."

REVIEWS. LVI.

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RUINED CITIES OF CEYLON.

The Ruined Cities of Ceylon. By Henry W. Cave, M.A., Queen's College, Oxford. Illustrated with photographs taken by the Author in the year 1896. 4o. *Lond.* 1897. [*Messrs. Sampson Low, Marston & Co., Lim., St. Dunstan's House, Fetter Lane, E.C.*]

A first glance at this book might lead to the supposition that it belonged to the drawing-room table class ; and from the number of the photographs the letterpress might appear to be only supplementary, and consequently of limited or doubtful authority. The work makes no pretensions to be a full exposition of the archæology of the ruined cities of Ceylon, but a perusal of it leads to the conclusion that the writer is very well versed in the subject ; and that he has followed the operations of Mr. Bell and other late explorers. He is even familiar with the newest theory of the pillars at the Thuparama and Lankarama dagabas, a theory first made to appear probable by a paragraph published in this JOURNAL, 22nd August 1895, with reference to a suggestion of Mr. Smither's. This was that these slender columns were merely for supporting Buddhist emblems, and were identical with the lâts of India.*

Mr. Cave's book contains sixty-three photographs, which are all very beautifully reproduced. Photographs do not always show the relative position of the different parts of a structure, and on that account cannot take the place of a work like that of Mr. Smither's, where plans and sections convey the constructive intention of a building. But, on the other hand, geometric drawings, done with tee-square and drawing-pen, fail in representing the actual condition of an old monument. The photograph often represents the real appearance, and this gives the true character of a building ; while it shows the effect of time and the weather, and we can judge as to what the object is like at the present day. Where there is sculpture, either figures or ornament, we can derive a better notion from a photograph of the style they belong to than we can possibly do from a rough drawing. So far as Anuradhapura is concerned, we can, with Mr. Smither's work, and Mr. Cave's photographs before us, form almost as perfect an idea of the great monuments at that place as if we were on the spot.

Mr. Cave's book is not limited to Anuradhapura ; there are other ruined cities in Ceylon besides it. There is Polonnaruwa, which was the capital of the island after Anuradhapura. Mihintale, with its wonderful flight of 1,840 steps, is still known as " the Cradle of Buddhism " in Ceylon. It was at this place that Mahinda, the son of Asoka, when he came to Ceylon as an Apostle of Buddhism, in the year 307 B.C., met, and converted, Tissa, who was then the king of the island ; and the spot has remained sacred ever since from this event.

There is little in this book to add to what has already appeared in former communications about the great dagabas at Anuradhapura ; but the author supplies a very good method of estimating their great size. He says that one of the largest contains enough masonry to build a town of sufficient extent for twenty-five thousand inhabitants. King Tissa, on his conversion, bestowed his own pleasure garden on the monks, as a mark of devotion and piety. It was twenty miles in extent, and the king himself performed the ceremony of consecrating it to the religion of Buddha. Accompanied by the chief Theras, or monks, and a military array, the king held a golden plough, harnessed to two superb State elephants, called Mahapaduma and Kunjara ; he ploughed a furrow to mark the limits of the ground. This rite in Ceylon has an interest from its resemblance to the Latin and Etruscan practice of ploughing a furrow as a pomœrium. The site of the Thuparama dagaba, the oldest of the monuments of that kind at Anuradhapura, was determined by the Mahathera, or Head of the Monks, at this important ceremony.

The sixteen hundred granite pillars on which the Lohā Pasada, or great Brazen Monastery, stood form a striking photograph. Their height above ground is about twelve feet, and as they are grey in colour they stand out from the dark foliage around, weird and ghostly. Their original purpose would be a puzzle to one coming upon them with no previous knowledge. These stones would easily pass for what is usually called Druidic remains. Their intention is now clearly enough understood; the monastery was not built on the ground, but stood upon these pillars—a manner of construction that was common in India in the past, and is still practised in Burmah at the present day, where wood is the material employed. This peculiar arrangement, at some early date, served originally for two purposes: one was sanitary, as it raised the structure above the damp ground; the other was defensive at a time when robber bands might be making raids. Mr. Cave quotes a description of this monastery from the *Mahawanso*, which is worth repeating here:

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* See also a communication of mine to the *Journal of the Royal Asiatic Society* for April 1896, p. 361.—W. S.

> This palace was one hundred cubits square, and of the same height. In it there were nine stories, and in each of them one hundred apartments. All these apartments were highly finished with silver; and the cornices thereof were embellished with gems. The flower-ornaments thereof were also set with gems, and the tinkling festoons were of gold. In this palace there were a thousand dormitories having windows with ornaments which were bright as eyes. The monarch caused a gilt hall to be constructed in the middle of the palace. This hall was supported on golden pillars, representing lions and other animals, as well as the dévatás, and was ornamented with festoons of pearl all round. Exactly in the middle of this hall, which was adorned with the seven treasures, there was a beautiful and enchanting ivory throne. On one side of this throne there was the emblem of the sun in gold; on another the moon in silver; and on the third, the stars in pearls. From the golden corners in various places in the hall, bunches of flowers made of various gems were suspended; and between golden creepers there were representations of the Játakas. On this most enchanting throne, covered with a cloth of inestimable value, an ivory fan of exquisite beauty was placed. On the footstool of the throne a pair of slippers ornamented with beads, and above the throne glittered the white canopy of dominion mounted with a silver handle.

This quotation will give some idea of the style of architectural decoration that was practised in Ceylon about the middle of the second century B.C. The "enchanting throne," we may suppose, was Buddha's, the usual method of representing him at the time, before statues were introduced; the "slippers" were no doubt the representation of Buddha's feet, such as may be seen in the Amaravati sculptures, where the throne is shown as an object of worship. Fergusson has expressed himself* as doubting the accuracy of the *Mahawanso* about the number of apartments in each storey. If there were a hundred in each this would imply that the building was as large in the top floor as in the first. The Chinese pilgrims describe the Pigeon Monastery in the Dekhan, and it is clear enough that each floor in that case was smaller in dimensions than the one beneath it, and that the whole structure was pyramidical. We have a good example of this construction in Dharmaraja's Ratha, at Mahâvallipur, near Madras; and the form can be stil traced in the Dravidian style as it exists in the present day.

The Sat-Mahal-Prasada, at Polonnaruwa, of which a very good photograph is given by Mr. Cave, may be referred to as a survival of the pyramidical form. The Brazen Monastery was constructed of wood and metal, but the Sat-Mahal-Prasada is built of brick, so could not be raised on pillars, but the old form of making each storey smaller than the one below has been here continued.

Mr. Cave repeats the statement made by Mr. Smither, that some of the capitals in the Dalada Maligawa, or Temple of the Tooth, at the Thuparama dagaba, are "worked into a design to represent the sacred tooth." My impression, founded on Mr. Smither's drawings, is that these capitals represent a *trisula*, or trident, which is a well-known symbol common to both Buddhism and Brahmanism.

Buddhist caves in Ceylon is a phrase that might suggest rock-cut temples like those in Western India. In this book we have photos of caves at Dambulla, Mihintale, and Aluwihari, and in each case they appear to be nothing more than natural formations, where the rock overhangs, and the cave is produced by merely building a wall in front. There is a photo of a galgé, or hermit's cell, at Anuradhapura, which Mr. Cave says has been excavated, but it also has "an outer wall of brick," and does not appear to differ in any way from the others. No architectural forms are imitated in them such as we have in the Indian caves, and which have been of so much value in assisting to trace the details of architecture that were practised at the period when the caves were excavated.

If the Brobdingnagian plans of Mr. Smither's great work could be reduced to the size of Mr. Cave's book, and the two were published together, they would form a most useful combination to those desirous of studying the architecture and archæology of Ceylon. WM. SIMPSON.

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GOTHIC ARCHITECTURE.

Handbook to Gothic Architecture, Ecclesiastical and Domestic, for Photographers and others. By Thomas Perkins, M.A. 8o. *Lond.* 1897. [*Hazell, Watson, & Viney, Limited*, 1, *Creed Lane, Ludgate Hill, E.C.*]

This handbook embodies in permanent form a series of articles contributed by the author to the *Amateur Photographer*, with a view to enable photographers "to use their cameras intelligently in architectural work," though the author suggests that "the book may be of use to students of architecture even should they not be photographers." The work is divided into three parts, dealing respectively with Church architecture, domestic Gothic, and with Welsh, Scotch, and Irish architecture. The inclusion by the author of monastic buildings under the head of domestic Gothic does not seem very appropriate, and the terms Welsh, Scotch, and Irish architecture would seem to imply some altogether special *styles* of building quite peculiar to these several countries. In an introduction useful practical advice is given on architectural photography, with hints as to the best methods of work, and best kind of camera, lenses, and plates, &c.

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* *Indian and Eastern Architecture*, p. 196.

The book as a whole is well written and to the point; a great deal of information is conveyed in brief compass. The author is evidently much better qualified for his task than the majority of non-professional writers, and he has succeeded in producing a handbook likely to be eminently useful not only to those for whom it was especially written, but to the architectural student and antiquarian tourist also. Much of the work seems to be based on and condensed from the productions of Parker, Bloxham, and Rickman; at the same time the book has an individuality of its own, especially in its last two divisions.

Not only students of architecture but many architects and archæologists have, it must be admitted, but vague and hazy notions upon such matters as the ancient arrangement of conventual buildings and Mediæval castles, and the author gives some instructive chapters on these subjects, while in his notes on Welsh, Scotch, and Irish buildings he covers somewhat new ground. It is only to minor matters in the book that the critic can take exception, and some errors may have arisen from oversight in revision, as on page 41, where the date 1292 is cited for the commencement of the Early English style, when probably 1192 was intended. Page 43 defines spires of the broach type as those built with "eaves like a roof," a very inadequate definition. In some places, as on page 100, the author does not seem to have a very clear idea of what properly constitutes a beam, and on pages 57 and 86 he refers to stone window transoms as "cross beams," though on page 88 they are more properly called cross bars. He also occasionally misapplies the terms "architect" and "builder," using the latter word when the former would be more appropriate. On page 95 the word "fillet" is used when "neck mould" is intended. On page 106 our author says "the Early English screens which remain to us are all of stone." There are wooden screens of this period at Stanton Harcourt, Oxon.; at Thurcaston, Leicestershire, and probably elsewhere. Page 112 sets Tintern in Gloucestershire. Page 117 states that "Cistercian monasteries were characterised by plainness throughout." This chiefly applies to simplicity of plan and absence of much carving; the moulded work was often extremely rich and beautiful. The author further states that in these Cistercian churches was no "triforium," whereas this feature may be seen at Rievaulx and at Roche (?) abbeys, both Cistercian.

In an account of the keeps of castles, page 135, we are told that "generally there was a thick partition wall running down the centre of the keep, in which was situated the shaft of the castle well." It is true, certainly, that the castle well was generally in the keep—sometimes two of them, as at Dover—but not generally in the partition wall: in fact, partition walls seldom occur except in the larger Norman keeps. (The well at Rochester is in the partition wall.)

On page 140 bartizans are referred to as a "kind of machicolation," whereas bartizans are watch turrets, elevated on the angles of walls or towers.

In describing a barbican, which our author chooses to spell "barbacan," he speaks of it as a "lofty battlemented wall" placed in front of the drawbridge to defend the main entrance. This is rather a meagre description, as the barbican was often an important outwork—sometimes like an advanced gateway—as at Scarborough and Alnwick, and sometimes an earthwork, stockade, or semicircular fort, like "the Brayz" at Kenilworth. It was used for defence, and as a shelter for the garrison when assembling for a sortie.

It would take too long to refer to all the minor matters that invite remark; on page 217, however, the author speaks of St. Patrick founding the cathedral of Downpatrick in the *fifth* century, and Christchurch, Dublin, in the *twelfth*, which seems to give the Saint a pretty extensive career, considering that some eminent modern scholars regard him merely as a myth and as having had no real existence at all.

In any further edition of this book it might improve it to give the subjects of conventual and military architecture separate parts to themselves. The detailed accounts, or lists of buildings in different counties, with notes, should be made more complete, and might with advantage appear in smaller type than the main articles. A good index is also needed.

In conclusion, the book is well and liberally illustrated by photographic reproductions, and is thoroughly worthy of the notice of the professional or amateur photographer and of a place in any architectural, antiquarian, or topographical library.

Oxford. JOHN COTTON.

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PROF. FREEMAN'S SKETCHES OF TRAVEL.

Sketches of Travel in Normandy and Maine, by Edward A. Freeman. With illustrations from drawings by the author, and a Preface by W. H. Hutton, B.D., Fellow and Tutor of St. John's College, Oxford. 8o. *Lond.* 1897. *Price* 8*s.* 6*d.* [*Messrs. Macmillan & Co., Ltd.*]

"I cannot conceive," wrote Professor Freeman in his *Methods of Historical Study*, p. 235—"I cannot conceive how either the study of the general sequence of architectural styles, or the study of the history of particular buildings, can be unworthy of the attention of any man. Besides their deep interest in themselves, such studies are really no small part of history. The way in which any people built, the form taken by their houses, their temples, their fortresses, their public buildings, is a part of their national life fully on a level with their language and their political institutions. And the buildings speak to us of the times to which they belong in a more living and, as it were, personal way than monuments or documents of almost any other kind."

It was always from this high standpoint that Freeman viewed the monuments and places which he visited, and it is from this standpoint that the reader of these *Sketches of Travel in Normandy and Maine*—a collection of some of the late Professor's contributions to the *Saturday Review* and the *Guardian*—is constrained to regard most of the well-known towns and many of the less-frequented sites of Normandy.

Although written at long intervals—the earliest of these papers appeared in 1861, the latest was written thirty years after, and was only printed in 1892, after the writer's death—there is a well-marked continuity of treatment and a remarkable unity of design visible in the pages of this book which make a collection of these holiday sketches particularly welcome, especially to those who are already familiar with the same author's *Sketches from French Travel*.

It is inevitable that in the earlier sketches, when he was engaged on his *History of the Norman Conquest*, Freeman should be especially drawn into comparisons of English and Norman buildings, customs and place names, whereas in the more recent articles, when the *History of Sicily* was in progress, the reader is more often invited to turn for a space from the footsteps of the Norman Conqueror of England to those of the Norman Conqueror of the island in the Mediterranean Sea—from Mortain, which "looks down on the narrow dale of the river Cance," to Taormina, which "stands in somewhat the same sort on a kind of ledge on a hillside, with higher hills rising behind it." These are slight indications which might lead one to suspect that these sketches are not the result of a single sustained effort.

Of matter connected with purely architectural subjects there is much that the student of architecture will find of special interest; almost every page has some reference to the history and structure of the castles or churches with which Normandy abounds. But whether he is discussing the ethnical elements of resemblance between "a Norman of the Bessin and an Englishman of Norfolk," or making etymological suggestions as to the name "Dieppe"—disguised as it is by a French spelling, being nothing in the world but "The Deeps"—or comparing Caen and Oxford, "which throw up a forest of towers and spires without any one building being conspicuously predominant," Freeman always writes in an easy and delightful manner, and when he is led, as he sometimes is, into technical archæological discussions his arguments seldom fail to convince.

Of the illustrations from drawings by the author it is sufficient to say that, in spite of one or two instances—notably in the frontispiece—where fault may undoubtedly be found with the perspective, they add great value to the book, and compel admiration for the man who could not only write down his impressions in an incisive and vigorous prose, but also portray in an undeniably masterful way the striking and essential features of the buildings and places which he visited.

A. M. Watson.

NOTES, QUERIES, AND REPLIES.

An American Competition Agreement.

From J. Macvicar Anderson [*F.*]—

America leads the way in many things—all of which we may not approve—but some of her architects are now setting an example in the matter of architectural competitions, which might with advantage be followed by many members of the profession in the old country. They have mutually agreed that they will not enter into competitions, except upon conditions which they deem to be satisfactory, and which are defined in a document which they have signed, and which is published at length in the American journal *Architecture and Building* for 15th May. The material clauses of the agreement are as follows:—

> The undersigned architects, being constantly invited by those not conversant with architectural practice to participate in competitions upon conditions with which it is impossible to comply, announce that they have mutually agreed that they will enter into competition upon the following terms only:—
>
> That in any case the undersigned shall be paid at least a sufficient sum to reimburse them for their cash outlay in preparing their competition drawings.
>
> That in case of limited competition the number of competitors shall be definitely named, and that the number shall not be increased without the consent of all competitors.
>
> That it shall be definitely understood that the ordinary fees as published by the American Institute of Architects shall be paid as compensation for his professional services to the successful competitor.
>
> That in work of any serious importance a professional adviser or advisers shall be appointed to act with the party instituting the competition in the preparation of a proper programme, which shall be definite in its specifications of requirements and explicit in its statement of the drawings required and their character, and of the various rules which shall govern the competition.
>
> In the opinion of the undersigned it is very desirable that the professional adviser or advisers should be practising architects; and the undersigned suggest that the best result can be gained by first appointing the architects to compete and by inviting them to meet with the party instituting the competition for the purpose of consultation with regard to the preparation of the programme of competition and to nominate the professional adviser or advisers.
>
> It shall be the duty of the professional adviser or advisers to examine all drawings submitted by the competitors, and to place out of competition any competitor who has not submitted his designs at the date fixed for their

> reception, or who presents details or models which are not called for, or whose drawings do not conform exactly in number and character with the requirements of the programme, and that if placed out of competition his plans shall receive no further consideration by the party instituting the competition.
>
> Inasmuch as the object of a competition is to adopt the general *motif* of a design to be further elaborated, and to select an architect for the work rather than to secure plans perfectly studied in all of their details, the undersigned will enter upon no competition unless it shall be agreed that an award shall be made and that an architect shall be appointed on the consideration of the relative merits of the several schemes as shown by the drawings submitted, and that no demand shall be made for additional drawings or for a new competition.

The evils of the competitive system as applied to architecture were set forth in a leading article in this JOURNAL published on 9th April 1891. The views therein expressed may or may not receive general concurrence; but there can be no doubt that for the continuance of such evils, architects are themselves, in the main, if not entirely, to blame. If those of our architects who are in the habit of competing will follow the lead of their American brethren, and mutually agree to compete only upon conditions which are satisfactory and honourable—such, for instance, as are embodied in the *Suggestions* published by the R.I.B.A.—they will do much to eradicate the worst and most discreditable features of architectural competitions.

Devonshire House, Piccadilly.

From JOHN HEBB [*F.*]—

The gates removed by the Duke of Devonshire from Lord Burlington's villa at Chiswick, and now placed in the centre of the screen wall enclosing the colonnade in front of Devonshire House, Piccadilly, formed no part of the original design by Kent. In a print by Jacques Rocque (the compiler and engraver of Rocque's Map of London), dated 1736, of the villa from the high road the gate-piers and sphinxes are shown, but not the gates now in Piccadilly, the opening between the piers being closed by a very ordinary pair of low gates which are folded back. In another print, without a date, from a drawing by John Donnowell, of the villa, taken also from the road, published by Carrington Bowles, the gates recently removed are absent. Donnowell was an architect whose name is attached to several good engravings of buildings about 1753, and this fact gives additional value to his drawing, as, if the gates had been there at the time the drawing was made, he could scarcely have failed to observe them. Donnowell designed a house at High Wycombe, Bucks, for Lord le Despenser, which is illustrated in Woolfe and Gandon's *Vit. Brit.* fol. Lond. 1767–71, II. pl. 47–9. The gates recently removed from Chiswick were originally the entrance gates to the residence of Lord Heathfield, the heroic defender of Gibraltar. On Lord Heathfield's death, in 1790, his effects were sold, and the gates were purchased by the then Duke of Devonshire, and were by him transferred to his villa at Chiswick.

MINUTES. XVI.

At the Sixteenth General Meeting (Ordinary) of the Session, held Monday, 28th June 1897, at 8 p.m., Professor Aitchison, A.R.A., *President*, in the Chair, it having been announced that the Minutes of the Adjourned Special Meeting on the Election of Fellows, held on the 14th June, would be put for confirmation at a Special Meeting to be convened for the 12th July, the Minutes of the Business Meeting held on the 14th June 1897 [p. 394] were taken as read and signed as correct.

The President delivered an Address on the presentation of the Royal Gold Medal, the gift of Her Majesty the Queen, to Dr. P. J. H. Cuypers [*Hon. Corr. M.*], Amsterdam, who, having been duly invested with the Medal, replied in French in acknowledgment of the honour.

The President having called the attention of the Meeting to the drawings executed by the Aldwinckle Travelling Student 1896, Mr. H. S. East [*A.*], during his recent tour in Spain, the proceedings terminated, and the Meeting separated at 9 p.m.

THE DUNDEE INSTITUTE.

The following Syllabus of Competitions for the Session 1897–98 is issued by the Dundee Institute of Architecture, Science, and Art:—

No. 1.—Best Freehand Sketchbook of Architectural subjects from existing buildings, not less than six pages, in pencil only, not copied from any drawing. Size of page not larger than 10 inches by 7 inches.

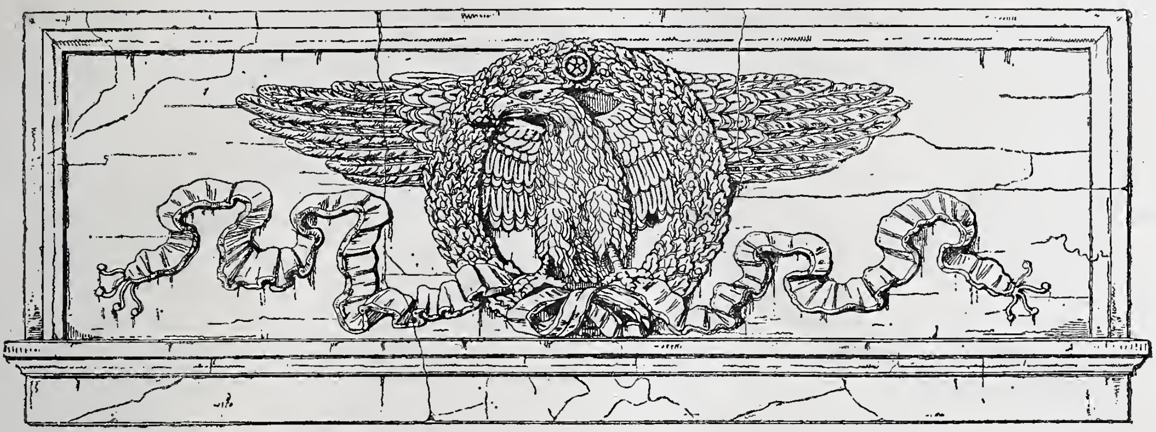
No. 2.—Best Measured Drawings of any Architectural subject, in black and white, and not more than 4 nor fewer than 2 sheets, containing Plan, Elevation, and section to $\frac{1}{8}$-inch or $\frac{1}{4}$-inch scale, and detail of a part to $\frac{1}{12}$th full size. Measurement books to be lodged. Size of Drawing, 21 inches by 14 inches, with margins or mounts beyond Drawing not exceeding 4 inches.

No. 3.—Best work in Modelling or Carving of any of the following:—(*a*) Cornice not exceeding 12 inches by 9 inches by 18 inches; (*b*) One Quarter of Centre Flower, not exceeding 21 inches by 21 inches; (*c*) Key Stone, not exceeding 18 inches by 12 inches; (*d*) Lock Plate and Door Handle, not exceeding 21 inches in height.

No. 4.—Best Outline Drawing, from an Antique subject in the Dundee Art Museum of Casts, or from duplicates thereof. Size of work, 22 inches by 14 inches, with 4-inch margins or mounts.

No. 5.—Best Design in Colour for any of the following subjects:—(*a*) Interior Decoration of a private Library, Dining or Drawing Room; (*b*) Wall and Ceiling Paper; (*c*) Door Panel; (*d*) Tile or Parquetry Floor; (*e*) Mosaic Tympanum.

The first and second competitions are limited to Architects' Apprentices, in Forfar, Perth, and Fife. The others are open to any one under 25 years of age, as at 31st January next, residing in Forfar, Perth, or Fife. The competitions are not confined to Members or Associates of the Dundee Institute or their Assistants or Pupils. The subjects submitted must be specially prepared for these competitions. The prize for each competition will be of the value of £2. 2*s.*, and in such form as the prize-winner may prefer. Works submitted must be under motto, and be delivered free to the Hon. Secretary, at the Dundee Institute Rooms, on or before 31st January 1898. Further information may be had by applying to Mr. J. J. Henderson, Hon. Secretary, 8, Bank Street, Dundee.



COTTAGE HOSPITALS. By Thos. W. Aldwinckle [*F.*].

MUCH of the best work done in this world is in the way of small things, in a kind of undercurrent below the greater matters which claim prominence and attract great popular sympathy. It is a characteristic of this work that it is generally well done, mainly because it is in the hands of those who do it for its own sake, in a quiet, unostentatious way, and have the advantage of thoroughly knowing what they want, and how to do it or get it. And much of this good work is none the less useful, but rather more so, when it is a kind of handmaiden to greater ideas with which it is in sympathy, or whose greater work it is only too happy to supplement in its own modest and yet useful way. A community is indeed fortunate that possesses citizens who are content thus to work, as it were, "underground," with little prospect of State recognition, or of the prestige attaching to more prominent though not more useful undertakings.

Reflections such as these arise upon reading Sir Henry Burdett's most interesting book on *Cottage Hospitals*, a third edition of which has recently been published.* This is virtually a new book on the subject, as fifteen years have elapsed since the second edition was brought out, during which time the Cottage Hospital movement has made such great strides that the subject has had practically to be re-written in order to bring the book up to date. Sir Henry Burdett is so well known as a master of the whole subject of hospitals, great and small, their planning and construction, their administration and finance, that it is almost needless to say that the present work is of most valuable interest, not only as a history of the cottage hospital movement, but also as a text-book full of the best information as to the designing and administration of these institutions, and one that should be in the possession of every architect. Our more immediate concern would naturally be with the architectural aspect of the subject, but it would be quite impossible to do justice to the work unless some reference were made to the other and not less important contents of the book.

The cottage hospital movement began, as many excellent things have done before, in a very small way; nor were hostile criticism and unfriendly indifference wanting. The late Mr. Albert Napper, of Cranleigh, was the author of the first work on the subject.† But he was also, undoubtedly, the actual founder of the movement, for he established the first cottage hospital at Cranleigh, in Surrey, in the year 1859, by the conversion of an ordinary Surrey cottage into a hospital at a cost of about £50. The medical profession further helped the good cause by pamphlets and books, Dr. Wynter,* Mr. F. H. Harris,† Dr. Waring, ‡ and Dr. Swete § being, among others, "forwards" in the good work. The movement soon received the influential support of *The Builder* newspaper, which fully appreciated the value of these hospitals, and accurately foreshadowed the success of the movement in rural districts.

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* *Cottage Hospitals.* By Henry C. Burdett. 8o. Lond. 1896. Price 10*s.* 6*d.* [The Scientific Press, Limited, 428, Strand.]

† *On the Advantages derivable by the Medical Profession and the Public from Village Hospitals*, 1864; 3rd edition, 1866.

As the author truly says, "it is but bare justice to the early promoters and authors that we should pay a tribute to the wisdom and foresight they displayed in propounding a scheme for general adoption which proved so successful in practice. Its simplicity, its ready adaptability, to the requirements of country districts, and its successful working, everywhere have raised the cottage hospital system high in public esteem." From the early days to the present time the progress of the movement has been steady, sure, and encouraging. So long ago as 1880 there were only five counties in England which did not possess at least one cottage hospital. Since that time these institutions have been promoted at the rate of about ten or fifteen per annum, with the result that in the year 1895 there were 294 cottage hospitals in existence, and only three counties which did not possess one. These should be named, in the hope that better things will prevail in the future: they are Huntingdon, Monmouth, and Rutland. In this connection it may be mentioned that Rutland, with a population of 22,000, has no hospital accommodation whatever, or, at all events, had none in 1895, when this edition of Sir Henry Burdett's book was written. It should be borne in mind that in rural districts there should be, according to the best authorities, hospital accommodation to the extent of one bed for every 1,000 inhabitants. During the development of the cottage hospitals there have necessarily been a few failures, but these were only in the earlier stages; and it is satisfactory to learn that in recent years the author has not met with a single instance where a cottage hospital has been established and subsequently discontinued. This is strong testimony, not only to the value of these institutions, but to the excellence of their management.

As to the benefits which these cottage hospitals render to society, particularly in rural districts, the author bears abundant testimony. The system provides against the evils of indiscriminate medical relief; puts the hospital patient into the position of being able to pay something, however small, according to his means, for the treatment he receives. It further secures justice to the medical profession, each doctor being free to follow his patient into the cottage hospital wards. Above all, it provides hospital accommodation in numerous rural districts, where the advantages of the larger urban hospitals are not available, giving a sufficient supply of food, constant and regular medical supervision, and avoiding the dangers attending a long and wearisome journey. To the country medical practitioner the cottage hospital confers many advantages. It raises his professional status, and enables him to treat, under proper hygienic surroundings, surgical cases which must, under other circumstances, have been sent to the county hospital. This increases his experience and knowledge, with advantage to his more wealthy patients. To quote the author: "The lessons learnt day by day in the cottage hospital become, in time of need, valuable in the ancestral hall, 'the peasant's misfortune' being 'the means of saving the life of the squire.'" Not the least benefit accruing from these institutions is the securing the permanent services of good nurses for rural districts. The foregoing are some of the principal benefits conferred upon society by these cottage hospitals, and their enumeration fully accounts for the permanent success of the movement.

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[*] Dr. Wynter, *Good Words*, May 1, 1866.

[†] *Remarks on the Establishment of Cottage Hospitals.* By F. H. Harris, M.R.C.S. 1866.

[‡] *Cottage Hospitals: their Objects, Advantages, and Management.* By E. J. Waring, M.D. 1867.

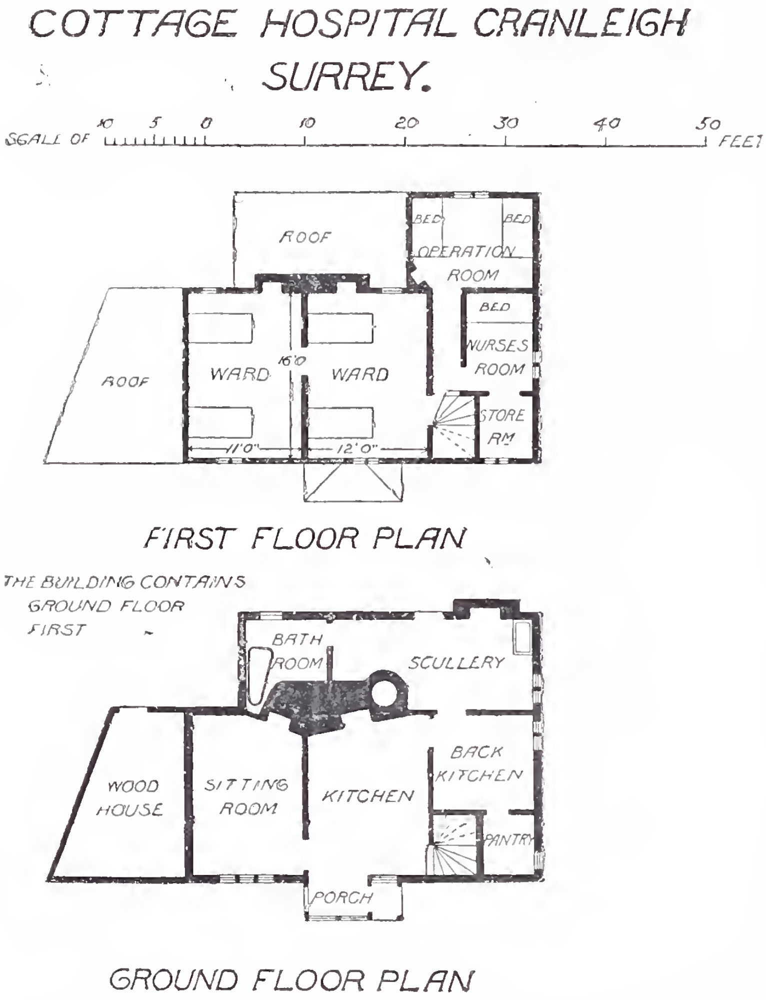
[§] *Handy Book of Cottage Hospitals.* By Horace Swete, M.D. 1870.

Dealing now with the architectural part of the book, this is considered by the author in considerable detail, and is illustrated by numerous plans, two of which are reproduced [pp. 412, 414] by way of illustration. It may not be out of place here to take exception to the expression "cottage hospital" as misleading. Mr. Albert Napper, in his pamphlet, which was the first publication on the subject, alludes to them as village hospitals, which would appear to be a much more correct description. It is true that in the earlier stages, as indeed at Cranleigh, these institutions were cottages pure and simple; but the modern cottage hospital is of a very different type, being, as a rule, an entirely new building, built for and as a hospital, and arranged according to modern hospital and hygienic laws. And such would appear to be the right course where, as a general rule at the present time, the funds necessary for a new building are forthcoming, although, of course, not to the exclusion of an altered and adapted cottage in very poor districts, where the money for anything better is not available. In this connection one cannot do better than quote the author, as what he says raises a wide question: "Here we would point a moral which is apt to be lost sight of in the present day by the more zealous advocates of the cottage hospital movement. Originally the main principle advocated was simplicity in buildings, and indeed in everything. The present day has created a rage for new buildings, and it is within our experience, when paying visits of inspection to cottage hospitals up and down the country, to find that so long as simplicity prevailed, and an old building was utilised for the purpose of the cottage hospital, the hygienic conditions of the building and the surgical results were good. In process of time, when funds became fairly abundant, and were utilised to erect entirely new buildings and 'modern' sanitary fittings and methods of drainage, their unhealthiness began to make itself felt, and the surgical results were attended with greater difficulties, if they were not even occasionally defeated, by the impurities which found their way into the wards owing to the adoption of a 'modern' system of drainage. . . . The truth is that where there is no complete system of drainage in the village or township where the cottage hospital is situated, it is better for the health of the patients to avoid the 'water-carriage' system altogether, and to rest content with middens and earth-closets situated outside and apart from the cottage or other building which may be converted to hospital use."

As a matter of fact, we shall see as we proceed that the hospitals coming within the category of so-called cottage hospitals, and dealt with by the author in his book, can be well divided into two classes, viz. those of the cottage type pure and simple, and those of the "hospital" type. The former class would appear to be suitable for about three or four beds, and the latter for from six or ten to twenty-five beds. When we reach a larger number of beds than twenty-five we appear to have gone beyond the cottage hospital movement.

From a large number of excellent plans published in this book two are reproduced here as illustrative of two types of cottage hospitals. The other plans in the book, to which readers are referred, illustrate a variety of types of cottage hospitals, and I propose briefly to deal with some of these.

The cottage hospital at Cranleigh, Surrey, was not only the first of the movement, but even at the present day remains a very good type of the small cottage hospital pure and simple. The building was a very old cottage of the ordinary Surrey type, given by the rector free of rent, and adapted for its present purpose at a cost of about £50. As will be seen from the plan, accommodation is provided for four beds on the first floor, the administration being on the ground floor. This adaptation of an old cottage for hospital purposes is certainly very ingenious and economical, and shows what good results can be obtained from poor materials, and shows also that a cottage hospital of this type would be within the means of any rural district. Here the nursing is placed in charge of a trained nurse, under the supervision of a ladies' committee.



The Petersfield Cottage Hospital represents another type of building (see page 250 in Sir Henry Burdett's book). This is still a very small hospital, being only for six beds, but it is a specially designed hospital building, and not an old cottage converted. There are four wards, two with two beds each and two with one bed each, all on the ground floor, and admitting of classification of cases. The two bed wards have cross-ventilation, and the general plan is, with one important exception, very good and economical. The exception is the matter of sanitary arrangements. No bath-room is provided—a most necessary feature of even the smallest hospital—and the water-closets are placed in internal angles, and without any means of cross-ventilation. The cost, exclusive of furniture, was £1,400.

The Brixham Cottage Hospital represents still another type of the small hospital class (*ibid.* page 271). In this case the desire is, apparently, to adhere to the cottage, or at least to the dwelling-house, principle. There are three wards, only one of which has any approach to cross-ventilation; while the central hall, which is proportionately very large, and from which the staircase rises, is absolutely without light of any kind. The large amount of bedroom accommodation on the first floor is explained by the fact that this institution provides for nursing the poor in their own homes, necessitating a larger sleeping accommodation for nurses than would otherwise be necessary. There is only one water-closet for patients' use, *and this is placed in the bath-room.*

The Watford Cottage Hospital (nine beds), of which the author speaks very highly, is apparently designed upon the "cottage" rather than the "hospital" principle (*ib.* page 264). There are male and female wards, each for four beds, and one ward for special cases; but the two main wards cannot be considered as having cross-ventilation, although they are well lighted and of cheerful aspect. This is a very compact plan—in fact, rather too compact; but it contains a large amount of corridor, the greater portion of which is very imperfectly lighted, having only small skylights, with neither side nor end windows. The sanitary arrangements are good, the water-closets and sinks being placed in turrets connected with the main building only by a cross-ventilated lobby. The kitchen department is also fairly well separated from the hospital proper. There is a good operating-room, with a north light. The cost of the building, exclusive of site and furniture, was £1,800, or £200 per bed.

The Surbiton Cottage Hospital, for twelve beds, is of two storeys throughout, having an accident ward for one bed on the ground floor, the remaining eleven beds being on the first floor (*ib.* page 276). A special feature at this institution is a large room for convalescents on the ground floor. There is again a large amount of corridor in this plan, but it is fairly well lighted, especially on the first floor. The water-closets and ward sinks are all separated from the main building by a cross-ventilated lobby. It is not, however, a good feature to place a ward over the kitchen. The cost of the building was £3,000.

Of quite another type is the Livingstone Cottage Hospital, Dartford (*ib.* page 272). Accommodation is provided for eighteen beds; in one male ward for eight beds, one male special ward for one bed; and the like for females. The baths, lavatories, and water-closets are in separate turrets, cut off from the wards by a cross-ventilated lobby. It might be mentioned in this connection that while it is essential that water-closets and foul sinks should be thus separated, it is not necessary in the case of baths and lavatories. The lighting of the two main wards is anything but satisfactory, and the special wards might be considered as difficult of supervision if there is only one nurse. An excellent feature in this plan is the placing of the administration department, containing the kitchen, surgery, dispensary, and nurses' bedroom, in a separate two-storey building—an approach to the pavilion system, which is very desirable. The first stone of this hospital was laid 21st April 1894 by Mr. H. M. Stanley, the explorer.

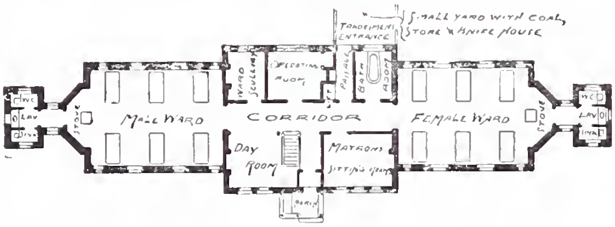
The Beccles Cottage Hospital, providing accommodation for sixteen beds, has a very simple, and in many respects excellent, plan (*ib.* page 258). There are two main wards for five beds each, one for three beds, one private ward for one bed, and an accident ward for two beds, all except the latter being on the first floor. The main wards have good cross-ventilation. The corridors are all short and well lighted. The absence of sanitary turrets in connection with the main wards is a defect, there being apparently no slop-sink, and only two water-closets for the upper floor, these water-closets, which doubtless have to do duty as slop-sinks, &c., not being separated from the main building by cross-ventilated lobbies. There are also good arrangements for out-patients. It is not, as stated before, a good arrangement to place a ward over the kitchen. The latter should, in all cases where practicable, be a one-storey building with an open roof. Taken as a whole, this is an excellent type of plan for a hospital of this size.

The cottage hospital at Cheshunt, Herts, providing accommodation for six beds, is a most excellent type of a small hospital, as indeed would be expected from its designers (*ib.* page 260). It is singularly free from the defect of the "cottage" type, with which it has virtually nothing in common. There are two wards, each for three beds and with good cross-ventilation, and each with the water-closet and sink in a turret separated from the ward by means of a cross-ventilated lobby, the latter serving both as lavatory and as access to the gardens. There is no separate bath-room, but a recess is provided in the main corridor, in which is placed a movable bath—an economical arrangement which, in a small hospital like this, would doubtless be sufficient for all purposes. The corridors are short and well lighted. There is no operation room. The kitchen is well separated from the wards. There are two good bedrooms on the first floor. This may be given as a most excellent model of a very small hospital quite complete in itself. The building was designed by Messrs.

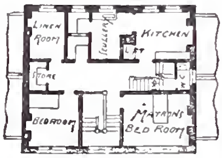
Keith Young and Hall, and cost £1,010—a very moderate expenditure for such good accommodation.

The last reference one need make to executed hospitals is the Grantham Hospital (*ib.* page 243). This contains accommodation for thirty-two beds. There are male and female wards, each for ten beds, a children's ward for nine cots, and an isolation block containing three beds. An institution of this size scarcely comes within the category of cottage hospitals; but when originally built, twenty years ago, there was provision only for twenty-three beds, the number having been increased up to thirty-two by addition of a children's ward. The wards are all well lighted, with good cross-ventilation; but the position of the water-closets in relation to the wards is not altogether satisfactory, the lobby separating them from the wards not being cross-ventilated. There is a most satisfactory absence of corridors. The kitchen is well placed in a position where smells cannot reach the wards. The total cost of building and furnishing, including new sanitary arrangements, was £8,412. The author, with perfect justice, speaks very highly of this hospital, and commends the plan to the attention of architects generally.

In addition to illustrating a very large number of existing hospitals, Sir Henry Burdett publishes some excellent plans of his own, to serve as models for future cottage hospitals. Laying down the principle that the purely pavilion system is too costly for hospitals having less than fifty beds, the author submits three "model" plans, one of which is reproduced here. Plan No. 1 is called "Burdett's Straight Model No. 1," and provides accommodation for ten beds in two wards of five beds each, one for males and one for females, with nurses' room and bathroom between. There are no special or separation wards. The wards are well lighted, with good cross-ventilation. The administration block is a separate building, connected with the ward pavilion by a covered way. This block contains kitchen, scullery, stores, operation room, and matron's room. This plan, the author suggests, would be suitable for an infectious hospital, and he estimates the cost at £2,010 in London and about £1,500 in country districts.



GROUND FLOOR.



FIRST FLOOR.

BURDETT'S STRAIGHT MODEL. COTTAGE HOSPITAL FOR TWELVE BEDS.

Plan No. 2 provides for twelve beds, with the administration department in the same block and placed in the centre, thus completely separating the two wards. In this case the kitchen is on the first floor. The cost is estimated at £1,778, cubed out at sixpence per foot.

The third plan is entitled "Burdett's Villa Hospital Plan," and provides for ten beds in two wards, the female ward being on the first floor. The kitchen is on the ground floor. On the first floor are the matron's bedroom and four other bedrooms, one of which could be used for isolating a special case. The author states that he does not like this plan so well as No. 2, but gives it in order to meet the predilections of those who consider that the sexes are more effectually separated by placing the female wards on the first floor. He estimates the cost at £1,988, cubed out at sixpence per foot.

These three plans undoubtedly suggest excellent types of small or cottage hospitals. The objectionable features of these institutions planned on the purely "cottage" principle, and already referred to, are avoided in these plans; the wards are all well lighted, and have good cross-ventilation; the water-closets and sinks are separated from the wards by cross-ventilated lobbies, and there is the minimum of corridor. Of the three plans, we should give our preference to No. 2. The hospital is self-contained; the sanitary turrets are placed at the ends, and not at the sides of the wards, thus avoiding the sacrifice of bed-space; there is a good day-room, thrown open to the corridor, on the model of the Halstead Cottage Hospital; and another excellent arrangement is that the kitchen is placed on the first floor.

From an examination of the various plans published in this book, it should not be a difficult matter to design a cottage hospital which would fulfil all necessary and proper modern requirements. There are, however, a few leading principles to be followed, which may be briefly considered here. For the purposes of a hospital for, say, three or four beds, in a rural district, the adaptation of an existing cottage will fully meet the case at a very small expense, and of this type the cottage hospital at Cranleigh will be found an excellent example. Such arrangements are, at all events, sufficient to commence with, and will frequently, as time goes on, give way to a new small hospital built upon modern lines, as in the case of the hospital at Bourton-on-the-Water, the third cottage hospital opened (in 1861), which was an adaptation of a substantial, but not a modern, building of three storeys. This was in use until 1879, when a new permanent hospital was erected at a cost of £887. Where, however, the number of beds reaches six it would be advisable to start, if possible, with a new building; and this should be planned somewhat upon the lines of the Cheshunt Cottage Hospital, or upon one of Sir Henry Burdett's model plans.

In a small hospital there should be a ward for each sex, and these wards should be placed so as to have good cross-ventilation, with windows on both sides. The water-closet turrets should be at one end rather than at one side of the ward, from which they should be separated by a cross-ventilated lobby, which can also serve as a lavatory. Where the number of beds reaches eight it may be advisable to have one or, if possible, two single-bed wards for special cases. There should be a well-ventilated and well-lighted bath-room. Corridors should be avoided as far as possible, and such as are provided should be well lighted and ventilated. The building throughout should be of one storey only, except the central administration portion, in which, where possible, it is very desirable to have a day-room for convalescents. An operation-room is necessary: this should have a north light. The kitchen should be well separated from the wards, so as to avoid smells reaching them, and should have an open ventilating roof. If any wards are placed on the first floor, they should not, under any circumstances, be placed over the kitchen. A nurses' sitting-room is required, as also a small doctors' room and dispensary, which, in a small hospital, could be also used as a committee-room. Dark and unventilated spaces and corners are to be most carefully avoided. In these small hospitals the warming and ventilation will necessarily be of a simple character. We shall, fortunately, be free from mechanical ventilation, plenum systems, and other doubtful matters. Open windows will meet all requirements in the summer, and open ventilating fireplaces will be sufficient in winter, the incoming air being warmed in passing through air-chambers at the back of the grate. The author goes into somewhat minute detail as to the planning and construction of these cottage hospitals, and very properly emphasises the importance of simplicity and economy in design and construction, pointing out that an elaborately designed hospital is expensive to maintain, and may prove a serious burden to the committee, with the prospect of ultimate failure.

There are several very interesting and valuable chapters in the book dealing with the management of these institutions, their financial arrangements and administration, the nursing arrangements, the vexed question of paying patients, the payment of the medical practitioners, the question of lying-in wards, the question of the "ticket" as against the "free" system, together with a very interesting chapter upon cottage hospitals in America;

but space does not admit of their being dealt with here. Enough has doubtless been written to show that cottage hospitals supply, and supply successfully, a great want previously felt in rural districts, where the advantages of the general hospital are altogether wanting. No one is entitled to speak on such a subject with more authority than Sir Henry Burdett, both as to the needs and their fulfilment. But there is a human as well as a professional aspect of most things, and Sir Henry Burdett has had a practical experience of the value of these cottage hospitals, of which he is so earnest an advocate, an account of which, to conclude this review, one cannot do better than give in his own words: "In God's good providence we have had evidence of the precise truth of our contentions in the person of one of our sons. This schoolboy, during the recent general election, while engaged in dragging the carriage of the member for the division round the quad at Marlborough College, was thrown down with others, and received very serious injuries, which in the absence of skilled medical treatment must have led to permanent disfigurement, if not to death. Fortunately, Dr. J. B. Maurice and his son, Dr. Thurlwall Maurice, members of the staff of the Savernake Cottage Hospital, were within call at the time of the accident. By their devotion and skill the lad's life was spared and the worst effects of his injuries were successfully removed. It is seldom that so painful and providential an example of the value of an author's teaching is brought home to him during his lifetime. In the case of this Marlborough boy the grateful father feels that any indebtedness and obligation on the part of cottage hospitals and their medical staffs and managers to himself have been entirely counterbalanced by the magnificent services rendered to his dear son by the surgeons of the Savernake Cottage Hospital."

⁂ The subjects of Hospital Planning, Warming, Ventilation, &c., are treated at length in the present series of the Journal as follows:—Vol. I. No. 12, 1894, p. 439, "Hospitals," by William Henman [*F.*]; Vol. II. No. 9, 1895, p. 265, "Fever Hospitals," by T. W. Aldwinckle [*F.*]; *ibid.* p. 314, "Warming and Ventilation," by J. D. Sutcliffe; Vol. III. No. 2, 1896, p. 36, "Hygienic Ventilation," by J. Le Marchant Bishop; Vol. IV. No. 13, 1897, p. 333, "The Construction of Hospitals," by William Henman [*F.*].

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9, Conduit Street, London, W., *29th July* 1897.

CHRONICLE.

THE SPECIAL GENERAL MEETING.

The Fellows Question.

The Special General Meeting held on the 12th inst. was convened for the purpose of confirming the additional provisoes to By-laws 9 and 15 agreed to at the Adjourned Special General Meeting of the 14th ult. [p. 396]. In the absence of the President the Chair was taken by Mr. H. L. Florence, *Vice-President.* Upon the Minutes of the Special Meeting of the 14th ult. being put for confirmation,

Mr. Sydney B. Beale [*A.*] asked permission to call attention to a few points on the Minutes of that Meeting, which would show that they were incomplete, and perhaps incorrect, and therefore should not be passed without amendment.*

The Chairman pointed out that Mr. Beale must limit himself either to verbal alterations or to any omission on the Minutes before them, but any irregular discussion involving matters of principle could not be allowed.

Mr. Beale said his first point concerned an omission. The Minutes contained no record of a protest that was made by certain members at the Adjourned Special Meeting of the 14th June. He suggested that that protest, which was made by several members, should be entered on the Minutes. In the second place certain resolutions passed at the Meeting were not properly voted upon and not properly carried. In the third place the Minutes stated that the Report was carried, and carried by a certain number of votes. He contended that the Report was not carried. Those were matters of fact which he was prepared to substantiate. He moved that the Minutes be amended in accordance with these facts.

Mr. C. H. Brodie [*A.*] seconded the alteration of the Minutes to the extent indicated by Mr. Beale. The protest was properly expressed, and should have been duly noted on the Minutes. Mr. Beale's second point, as to the voting on certain resolutions, he would not go into. He had taken Counsel's opinion upon the matter, and Counsel did not agree with him. With regard to the third point: the Minutes stated that the whole Report was carried by a certain majority. That majority, however, was clearly not in compliance with the By-law. The By-law, he was advised, was in conflict with the Charter, and needed alteration. By-law 62 demanded for certain purposes a majority of at least two-thirds of the Meeting. The Report did not get that majority; it was therefore not carried, and it was for the Council seriously to consider what to do under the circumstances.

The Chairman explained that in the Report of the Meeting which accompanied the Minutes in the Journal, any objections raised by members were duly noted; therefore it scarcely seemed necessary to record any protest. But if it was the wish of the Meeting, there was no objection to the Minutes being amended to that effect. In regard to the second and third points, he thought that a closer study of the By-law and Charter would show that the contradiction was one in appearance only, and not a contradiction in fact. Therefore, as the confirmation of the Minutes was the immediate business before them, no time should be taken up in the discussion of the second and third points.

Mr. J. Macvicar Anderson said that in his experience as Chairman he had never known a protest entered upon the Minutes unless a distinct request were made on the part of the protestor that the protest should be entered upon the Minutes. The Secretary was perfectly right in this instance in omitting all reference to it. He submitted that the Minutes were right as printed, and that they should not be altered.

Mr. Thomas Blashill agreed with Mr. Anderson; no special protest was made, and there was therefore no need to mention it on the Minutes.

Mr. Wm. Woodward [*A.*] asked that By-law 61 might be read. In his judgment the proceedings which had occurred in the Institute subsequent to the Resolutions printed on p. 305 of the Journal, before the discussion at the Special General Meeting on the 31st May, were entirely out of order.

The Chairman ruling that that matter could not be discussed at the present Meeting, Mr. Woodward said that he would call attention to the whole proceedings in connection with this question on a future occasion.

It having been pointed out that the proper course was for Mr. Beale to specify the exact words he desired to be added to or taken from the Minutes, Mr. Beale referred to the paragraph on p. 396 beginning "On this and the two following Resolutions the Chairman ruled that, under the terms of the Charter, Associates were debarred from voting," and proposed that the following words be inserted: "A formal protest was made by several members against the ruling, on the ground that it was not in accordance with the By-laws"; and then to go on, "the vote, *however*" (instead of *therefore*) "was restricted to Fellows."

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* These Minutes are printed in the Journal, No. 15, pp. 395–96.

Mr. Lacy W. Ridge [*F.*] pointing out that, as no *formal* protest was made, the words proposed to be inserted would be incorrect, Mr. Beale withdrew the word "formal." The Secretary having read the paragraph as proposed to be modified, Mr. Beale's amendment was put from the Chair, when 15 members voted in its favour and 15 against it. The Chairman being unwilling to exercise his privilege of giving the casting vote, a second count was called, when 15 again voted in favour of Mr. Beale's amendment, and 17 against it. The original motion that the Minutes be confirmed as printed being then put, 17 pronounced in their favour and 13 against, whereupon they were signed as correct.

The further business on the notice-paper with regard to the confirmation of the additions to By-laws 9 and 15 resolved upon at the Adjourned Special Meeting of the 14th ult. was then proceeded with, and concluded as recorded in the Minutes, p. 428.

THE SUMMER EXAMINATIONS.

The Preliminary: Newly registered Probationers.

At the conclusion of the special business before the Meeting of the 12th inst., the Chairman announced the results of the recent Examinations. The Preliminary was held in London, Manchester, and Bristol on the 15th and 16th ult., with the following results:—

	Passed	Relegated	Not passed
London . . .	34 .	25 .	3
Manchester . .	13 .	5 .	3
Bristol . . .	6 .	4 .	0
	53	34	6

The names of the candidates who have passed, together with those exempted from sitting for the Examination, making a total of ninety, have been entered on the Register of Probationers, and are herewith given in alphabetical order:—

AGATE: Charles Gustave; 17, Cooper Street, Manchester [*Masters*: Messrs. Royle * and Bennett *].

AITKEN: Alexander Raeburn; 7, Wharf Street, Stockton-on-Tees [*Master*: Mr. A. Harrison].

AMERY: Thomas Ford; 1, Princes Street South, St. Thomas, Exeter [*Master*: Mr. S. Dobell].

BARTON: Montague Downe; 84, Palace Gardens Terrace, Kensington [*Masters*: Messrs. Young * & Hall *].

BELFRAGE: James Herbert; Durham House, Portobello, Edinburgh [*Master*: Mr. Hippolyte J. Blanc, A.R.S.A.].

BELLAIRS: Seaforth Clifford Mackenzie; 21, The Avenue, Castle Hill, Ealing, W. [*Master*: Mr. A. Harry Heron *].

BERRILL: Ralph; 57, Gough Road, Edgbaston, Birmingham [*Master*: Mr. Alfred Reading *].

BLOMFIELD: Alfred William; 102, Dempsey Street, Stepney, E. [*Master*: Mr. Ernest R. Barrow *].

BROCKLESBY: John Sydney; 17, Fairlawn Villas, Merton Park, Surrey [*Master*: Mr. Frank E. Smee].

BROHIER: Annesley Percival; 32, Great George Street, Westminster, S.W. [*Master*: Mr. E. H. Bourchier *].

BROWN: Horace; 25, Dalmeny Avenue, Camden Road, N. [*Master*: Mr. R. Willey *].

BURT: John Thomas; 79, Commercial Road, Grantham [*Master*: Mr. Robert C. Clarke].

BYRNE: Thomas Joseph; c/o Anthony Scott, Esq., 16, William Street, Drogheda, co. Louth [*Master*: Mr. Edward Carter *].

CATT: Alfred Edward; 6, Eversfield Place, St. Leonards-on-Sea [*Master*: Mr. Arthur Wells *].

CLARK: John Care; 15, Brankingham Terrace, Norton Road, Stockton-on-Tees [*Master*: Mr. A. Harrison].

CLEGG: Fred; Mumps House, Oldham [*Masters*: Messrs. Whitelegg & Whittaker].

COUCH: William Edward; 25, Linden Gardens, Bayswater Road, W. [*Master*: Mr. John T. Lee *].

CRAWFORD: David William; 12, Carlton Street, Edinburgh [*Master*: Mr. Hippolyte J. Blanc, A.R.S.A.].

CRIMP: Arthur Gerald; Colmer, Modbury, S. Devon [*Master*: Mr. T. W. Latham].

DANNATT: Percy Boothroyd; Lyndale, Westcombe Park Road, Blackheath, S.E. [Polytechnic Architectural School].

DAVIES: William James; Thornton Dene, Sidcup, Kent [*Master*: Mr. T. E. Lidiard James *].

DAVSON: Percival May; 8, Manchester Street, Manchester Square, W. [*Master*: Mr. W. H. Seth-Smith *].

DENSHAM: Sidney Charles; 42, Wellington Road, St. John's Wood, N.W. [Polytechnic Architectural School].

DOLL: Otto Sigismund; Hertford House, 256, Fulham Road, South Kensington, S.W. [*Master*: Mr. C. Henman *].

DONNELLY: James Louis; 79, Calabria Road, Highbury, N. [*Master*: Mr. William Hague].

DRUMMOND: Bertram; 29, Preston Street, Fleetwood [*Masters*: Mr. T. A. Drummond & Sons].

EEDES: Arthur Avis; 76, Copleston Road, Denmark Park, S.E. [*Master*: Mr. J. W. Brooker *].

ELL: Reginald George Gordon; Lawn Bank, John Street, Hampstead, N.W. [*Master*: Mr. J. Douglass Mathews *].

FARQUHARSON: Peter Charles; 3, Albyn Place, Aberdeen, N.B. [*Master*: Mr. A. Marshall Mackenzie,* A.R.S.A.].

FINCH: Clifford; 17, Grandison Road, Clapham Common, S.W. [*Master*: Mr. C. E. Jackson].

FOXLEY: Allen, B.A. Cantab.; Carlton Rectory, Worksop [*Master*: Mr. C. Hodgson Fowler *].

GEORGE: Clement; 5, Rosemount Terrace, Aberdeen [*Master*: Mr. A. Marshall Mackenzie,* A.R.S.A.].

GORDON: Donald Macpherson; 41, Bath Street, Portobello, Edinburgh [*Master*: Mr. Henry F. Kerr *].

GRACE: Lionel Upperton; 37, Norfolk Street, Strand [*Master*: Mr. R. Clarke Edwards *].

GRAY: John Vincent; 18, Wilfred Street, Derby [*Masters*: Messrs. Naylor * & Sale].

GREGG: Theodore; Teighmore, Sutton, Surrey [*Master*: Mr. Ebenezer Gregg *].

GREEN: Walter Godfrey; Lincoln Cottage, Lincoln Road, Woking, Surrey [*Master*: Mr. Charles Barry*].

GRIFFITHS: Thomas Henry; Ivy House, Cosknage Road, Longton, Staffs [*Master*: Mr. James Lobley].

HALL: John Percy; 6, Victoria Grove, Kensington, W. [*Master*: Mr. Goldie].

HARDCASTLE: Henry Arthur; 36, Granville Road, Stroud Green, N. [*Master*: Mr. T. P. Davison].

HARDING: George Robinson Cuthbert; Lindum, Beckenham, Kent [*Master*: Mr. Ernest R. Barrow *].

HARRISON: Shirley; 7, St. Martin's East, Leicester [*Master*: Mr. Stockdale Harrison *].

HASLAM: James; Henley Villa, Uxbridge Road, Ealing, W. [*Master*: Mr. F. H. Jones].

HASLAM: Robert Heywood; 11, Gayton Crescent, Hampstead, N.W. [*Master*: Mr. C. F. A. Voysey].

HAXTON: Andrew David; 133, South Street, St. Andrews [*Master*: Mr. James Gillespie].

HENMAN: Charles Henry Rowed; Streatley, 38, Friend's Road, Croydon [*Master*: Mr. Charles Henman *].

HOBBISS: Holland William; Penzance Villa, Washwood Heath Road, Birmingham [*Master*: Mr. A. J. Dunn *].

HOUCHIN: Harold Rogers; 12, West Smithfield, E.C. [*Master*: Mr. Frank E. Smee].

INSLEY: Ernest Eccleston; Old Studley, Wimborne Road, Bournemouth [Abingdon School].

JEFFERY; Herbert Murray; Cheriton, 77, St. Helen's Road, Hastings [*Masters*: Messrs. Jeffery & Skiller].

JONES: Harold William James; 31, Thornford Road, Lewisham Park, S.E. [*Master*: Mr. Edgar S. Underwood].

KEENAN: Joseph; 66, Newgate Street, Bishop Auckland [*Master*: Mr. William Perkins].

KOELMAN: Frederick Logan; 32, Great George Street, Westminster, S.W. [*Master*: Mr. E. H. Bourchier *].

LOADES: Leonard Arthur; North Field House, Morpeth [*Master*: Mr. J. T. Cackett *].

LORD: George Wilfred, B.Sc. Lond.; 42, John Dalton Street, Manchester [*Master*: Mr. Henry Lord *].

LOVEDAY: William Taylor; Williamscote, Banbury [*Master*: Mr. W. E. Mills *].

McKENZIE: Henry Blinman; 13, Senghennydd Road, Cardiff [*Master*: Mr. E. H. Bruton *].

MARR: William Percy; The Quay House, Kingsbridge, South Devon [*Master*: Mr. T. W. Latham].

MAYHEW: Robert Henry Tewers; Edmondsbury, Genoa Road, Anerley, S.E. [*Master*: Professor T. Roger Smith *].

MAYS: Ashby John; West View, Yarborough Road, Lincoln [*Master*: Mr. J. H. Cooper].

MORRIS: Leon; 28, River Street, Carlisle [*Master*: Mr. C. J. Ferguson,* F.S.A.].

NOBBS: Percy Erskine, M.A.; 4, Comely Bank, Edinburgh [*Master*: Mr. R. S. Lorimer *].

NORRIS: Edward Berks; 301, Charles Road, Small Heath, Birmingham [*Master*: Mr. G. Repton Faulkner].

NYE: Edward Goodrham; Town Hall, Eastbourne [*Master*: Mr. W. Chapman Field].

OPIE: Wilfrid Maxwell; Glenside, Mannamead, Plymouth [*Masters*: Messrs. Hine * & Odgers].

PAPWORTH: Alfred Wyatt; 8, Maitland Park Road, London, N.W. [*Master*: Mr. Arthur Cates *].

PRINCE: Harry; 11, Clanricarde Gardens, W. [Westminster School].

QUAIL: John; 62, Shrewsbury Street, Old Trafford, Manchester [*Masters*: Messrs. Salomons * & Steinthal].

RALPH: Ernest Wyatt; 90, Swinley Road, Wigan [*Masters*: Messrs. Heaton, Ralph, & Heaton].

ROSS: James Gardner; 6, Kestrel Avenue, Herne Hill, S.E. [*Masters*: Messrs. Snell & Waterson].

ROWBOTHAM: Harry Arnold; 28, Vale Street, Denbigh, North Wales [*Master*: Mr. R. Lloyd Williams *].

SCOBIE: James Thomson; Park Avenue, Dunfermline [*Master*: Mr. Andrew Scobie].

SCOTT: George Moffatt; Avenue Hall, St. Mark's Avenue, Leeds [*Master*: Mr. W. H. Thorp *].

SHARP: Ernest Samuel; 32, Devonshire Street, Keighley, Yorks. [*Masters*: Messrs. Hodgson & Farrar].

SHARP: George Lister Thornton; Newspaper Press Fund, 11, Garrick Street, W.C. [Haileybury College].

SIMPSON: William Begg; Rosehall, New Machar, Aberdeenshire [*Master*: Mr. A. Marshall Mackenzie,* A.R.S.A.].

SPAIN: John Edward; Rand Rectory, Wragby, Lincs. [*Master*: Mr. W. Scorer *].

SPRAGG: Gilbert; 4A, Cork Street, W. [*Masters*: Messrs. Read * & Macdonald *].

STEVENSON: Ernest Gabriel; 58, Thornlaw Road, West Norwood, S.E. [*Master*: Mr. Arthur Green *].

SWINDELLS: Ernest James Jennings; 151, King Richard's Road, Leicester [*Masters*: Messrs. Goddard,* Paget,* & Goddard *].

THOMAS: Noel; 22, Lockyer Street, Plymouth [*Masters*: Messrs. Hine * & Odgers].

THORPE: Fred; 27, Queen Street, Oldham [*Master*: Mr. Thomas Taylor].

TREW: William George; Tanglin, Dulwich Rise, S.E. [*Masters*: Messrs. H. S. Legg * & Son *].

WELLS: Albert Randall; 25, Cornwallis Gardens, Hastings [*Master*: Mr. Arthur Wells *].

WESTACOTT: Percy; Central Exchange, Plymouth [*Master*: Mr. R. H. B. Neal].

WILLIAMS: Aubrey Neville; Highfield, Queensbury, Yorks. [*Master*: Mr. James Ledingham *].

WILLIAMS: Charles Lionel Fleming; 56, Kenninghall Road, Clapton, N.E. [*Master*: Mr. Rowland Plumbe *].

WOODLAND: William Norton Ferrier; 135, Cold Harbour Lane, Camberwell, S.E. [*Master*: Mr. Leonard V. Hunt *].

WRATTEN: Edmund Livingstone; Hellingley, Dingwall Avenue, Croydon [*Master*: Mr. James Williams].

WRIGLEY: Francis Carr; Fieldhead, Netherton, Huddersfield [*Master*: Mr. William H. Thorp *].

The asterisk (*) denotes members of the Institute.

The Intermediate: Newly registered Students.

The Intermediate Examination was held in London, Manchester, and Bristol, on the 15th, 16th, and 17th ult., with the following results:—

	Passed	Relegated
London	29	21
Manchester	4	1
Bristol	2	1
	35	23

The following candidates passed, and are registered as Students:—

WOORE: Joseph Alfred [*Probationer* 1895]; Wilfred Street, Derby [*Masters*: Messrs. Naylor * & Sale, Derby].

VERSTAGE: Arthur Halcrow [*Probationer* 1894]; Park Villa, Meadrow, Godalming [*Master*: Mr. C. Forster Hayward *].

BROMLEY: Henry Thomas [*Probationer* 1893]; 182, Portway, West Ham, E. [*Master*: Mr. R. A. Briggs *].

PRYKE: Louis Edward [*Probationer* 1894]; 18, Grenville Place, Brighton [*Masters*: Messrs. Nunn * & Hunt].

GOODLAND: Joshua [*Probationer* 1893]; 1, The Parade, Roath, Cardiff [*Master*: Mr. G. E. Halliday *].

COOPER: Harold [*Probationer* 1896]; Pleasington, nr. Blackburn [*Master*: Mr. Walter Stirrup].

GREGSON: Thomas Sedgwick [*Probationer* 1895]; 79, King Henry's Road, South Hampstead [*Master*: Mr. Burgess].

SMITH: Cyril Wontner [*Probationer* 1893]; 34, Woodberry Grove, Finsbury Park, N. [*Master*: Mr. Arnold Mitchell *].

REYNOLDS: Edwin Francis [*Probationer* 1894]; 35, Trinity Road, Birchfield, Birmingham [*Master*: Mr. W. H. Bidlake *].

PEARSON: Harry John [*Probationer* 1895]; 49, Parliament Street, S.W.

BALL: Theophilus Bradford [*Probationer* 1894]; 1, Albert Terrace, Weston-super-Mare [*Master*: Mr. S. J. Wilde].

GAMMELL: Kensington [*Probationer* 1895]; 30, Guildford Street, Russell Square, W.C. [*Master*: W. V. Gough].

SMITH: Thomas Marshall [*Probationer* 1896]; 39, Regina Road, Tollington Park, N. [*Master*: Messrs. Hesketh * & Stokes *].

GOSLETT: Alfred Harold [*Probationer* 1895]; Lime Place, Great Stanmore, Middlesex [*Master*: Mr. R. Selden Wornum *].

PONTON: Harold Frederick [*Probationer* 1894]; Bryn Glas, Little-over-Hill. Derby [*Masters*: Messrs. Naylor * & Sale].

HALE: Charles [*Probationer* 1895]; Fairfield, Queensberry Road, Kettering [*Masters*: Messrs. Talbot Brown * & Fisher].

NEWMAN: Francis Winton [*Probationer* 1895]; 24, Burghley Road, Highgate Road, N.W. [*Master*: Mr. S. J. Newman *].

DRIFFIELD: William [*Probationer* 1895]; Beech Mount, Harrogate [*Master*: Mr. W. H. Thorp *].

NICOL: George Salway [*Probationer* 1895]; Newhall Chambers, Newhall Street, Birmingham [*Masters*: Messrs. Essex,* Nicol,* & Goodman].

ABBOTT: Thomas Ernest [*Probationer* 1893]; St. Leonard's House, East Sheen [*Master*: Mr. E. Dewar Mathews].

BRIDGEN: Charles Henry Edward [*Probationer* 1895]; 29, Calthorpe Street, W.C. [*Masters*: Messrs. Truefitt & Watson *].

CAYLEY: Henry, M.A. Cantab. [*Probationer* 1895]; Garden House, Cambridge [*Masters*: Messrs. R. Barry Parker & Raymond Unwin].

HARRIS: Emanuel Vincent [*Probationer* 1893]; 47, Bolsover Street, W. [*Master*: Mr. E. Keynes Purchase].

WHITE: Charles Ernest [*Probationer* 1893]; 2, Duchy Avenue, Harrogate, Yorks. [*Master*: Mr. T. E. Marshall].

PICKUP: Arthur [*Probationer* 1895]; 8, Granville Road, Blackburn [*Masters*: Messrs. Stones * & Gradwell].

FOSTER: Alfred Herbert [*Probationer* 1896]; 21, Gordon Street, Gordon Square, W.C. [*Master*: Mr. E. O. Sachs].

BUTTERWORTH: Robert Hepburn, B.A. [*Probationer* 1895]; 38, Upper Bedford Place, W.C. [*Master*: Mr. John Slater *].

BUTTERWORTH: Walter Cecil [*Probationer* 1895]; 38, Upper Bedford Place, W.C. [*Master*: Mr. John Slater *].

DOUGLASS: Henry Archibald [*Probationer* 1892]; 14, Clifton Terrace, Brighton [*Masters*: Messrs. Bourchier * & Galsworthy].

ELLIS: George Rowland [*Probationer* 1895]; London Road, Beccles, Suffolk [*Master*: Mr. Arthur Pells].

EMBLING: Jacques [*Probationer* 1894]; 24, Trinity Street, Dorchester, Dorset [*Master*: Mr. Galt Millar].

FEATHERSTONE: Henry Whitehead [*Probationer* 1894]; 43 Heaton Hall Road, Newcastle-on-Tyne [*Masters*: Messrs. Plummer * & Burrell].

HEATH: John Stanley [*Probationer* 1895]; Kingsbridge House, Westcombe Park, S.E. [*Masters*: Messrs. Roger Smith * & Son *].

LOCOCK: Arthur Herbert [*Probationer* 1894]; 22, Palace Mansions, Addison Road, W. [*Master*: Mr. Aston Webb *].

WATSON: Alfred Edward [*Probationer* 1893]; South Bank, Oakleigh Park, N. [*Master*: Mr. Sprague].

The asterisk (*) denotes members of the Institute.

The Final: Qualifying for Candidature as Associate.

The Final and Special Examination was held in London from Friday, the 25th ult., to Thursday, the 1st inst. Thirty-three candidates were examined, of whom fifteen passed, and eighteen were relegated to their studies. The names of those who have passed, and qualified for candidature as Associate, are as follows:—

BATES: William Stanley [*Probationer* 1894, *Student* 1895]; 59, Clarence Road, Clapton].

CORAM: James Henry [*Probationer* 1894, *Student* 1895], 95, Elspeth Road, Clapham Common, S.W.

FLEMING: James Richard; 93, Cambridge Street, Warwick Square, S.W.

HATCHER: George William; 35, Finsbury Circus, E.C.

HILL: Richard Henry Ernest [*Probationer* 1892, *Student* 1894]; St. Keverne, Bromley, Kent.

HONNOR: Timothy [*Probationer* 1889, *Student* 1891]; 17, Buckingham Street, Strand, W.C.

MARSHALL: Ernest William [*Probationer* 1895, *Student* 1895]; 139, Oxford Street, W.

MEREDITH: Percy William [*Probationer* 1890, *Student* 1893]; 20, Deerbrook Road, Herne Hill, S.E.

MORRIS: Percy [*Probationer* 1892, *Student* 1894, *Cates Prizeman*]; 97, St. John's Park, Blackheath, S.E.

REAY: Samuel Sebastian; Octagon Chambers, Milsom Street, Bath.

ROCHESTER: Charles Dixon [*Probationer* 1890, *Student* 1893]; 13, Devonshire Place, Newcastle-on-Tyne.

SHAW: Arthur Joseph Singleton [*Probationer* 1891, *Student* 1893]; 27, Queen Street, Oldham.

SINNOTT: Herbert Cyril [*Probationer* 1890, *Student* 1893]; St. Kilda, Westbury-on-Trym, near Bristol.

SMITH: Osgood [*Probationer* 1890, *Student* 1893]; 87, Hanley Road, Crouch Hill, N.

TRIMNELL: Harold Conybeare [*Probationer* 1892, *Student* 1894]; White Cliff, Woldingham, Surrey.

The following table shows the number of failures among the relegated candidates in each subject of the Final Examination:—

I.	Design	15
II.	History	8
III.	Mouldings and Ornament	13
IV.	Principles of Hygiene	11
V.	Materials	3
VI.	Strength of Materials	4
VII.	Construction	3
VIII.	Specifications	2
IX.	Professional Practice	3

The Standing Committees 1897–98.

Pursuant to By-law 46, the Council have appointed the following members to serve on the Standing Committees in addition to those elected by the Institute [see p. 379]:—

Art: Mr. L. Alma Tadema, R.A., Sir W. B. Richmond, R.A., Mr. Alfred Gilbert, R.A., Sir

James Linton, P.R.I. [*Hon. Associates*], and Mr. George Sherrin [*A.*].

Literature: Dr. A. S. Murray, Professor Baldwin Brown, Mr. J. D. Crace, Colonel Lenox Prendergast [*Hon. Associates*], and Mr. H. Heathcote Statham [*F.*].

Practice: Messrs. James Brooks, F. S. Brereton, J. Osborne Smith [*Fellows*], C. H. Brodie, and H. Hardwicke Langston [*Associates*].

Science: Messrs. H. F. Donaldson, Hugh Leonard, Professor Unwin, F.R.S. [*Hon. Associates*], H. Vaughan Lanchester, and Sydney B. Beale [*Associates*].

The New Government Offices Scheme.

The Committee of the House of Commons, presided over by Mr. Akers-Douglas, First Commissioner of Works, and entrusted with the duty of deciding as to the best way of utilising the various sites available for new Government offices in Great George Street, Spring Gardens, Downing Street, and Whitehall Place, resumed their sittings on the 30th ult.

Mr. J. Macvicar Anderson [*F.*], on behalf of the Royal Institute of British Architects, submitted an amended plan for the new War Office on the site of Carrington House. In this plan the frontage of the War Office to Whitehall, of about 400 feet, was proposed to be marked in the centre by a recessed quadrangle 170 by 140 feet, enclosed in front by an architectural screen; and on the same axial line as this quadrangle and screen it was proposed to form a corresponding screen on the other side of Whitehall, and at a distance of about 200 feet, as an approach to St. James's Park, somewhat after the manner and scale of Hyde Park Corner, thus bringing the Admiralty, the War Office, and the Horse Guards together in one scheme. He considered that this plan would produce a fine architectural effect, and with a four-storeyed building the same amount of accommodation would be afforded as in the Government plan of a five-storeyed building. In all other respects the plan was identical with the plan previously submitted on behalf of the Institute.

Mr. Arthur Cates [*F.*], on behalf of the Commissioners of Woods and Forests, explained how the Crown property would be affected under the scheme proposed by Mr. Edis for diverting Whitehall Place and continuing Great Scotland Yard directly into Charing Cross. He suggested that if the scheme for diverting Whitehall Place were adopted, Great Scotland Yard should not be continued into Charing Cross, but should be turned into Whitehall Place at about the present position of the cross street opposite the Fire Brigade Station. Under this plan it would be necessary to demolish all the houses between Whitehall Place and Great Scotland Yard, up to the Hôtel Métropole. It would be very undesirable to leave the property to the north of Whitehall Place in its present condition. Under the plan proposed by the Institute, Whitehall Place would be entirely closed and shut off from direct access to Whitehall. The Commissioners of Woods would strongly object to this, and the persons interested in the Hôtel Métropole, the National Liberal Club, and the offices of the Ecclesiastical Commissioners would equally object. He regarded the plan of the Institute, as affecting the Crown estates, as far less satisfactory than that of Mr. Edis.

Sir John Taylor, K.C.B. [*F.*], representing the Office of Works, estimated the cost of acquiring the Great George Street site from the Institution of Civil Engineers right away to St. James's Park, and of erecting Government offices thereon, according to the Institute plan, as being about £800,000 greater than the cost of carrying out the Office of Works plan. In his view it was highly desirable that the Government should acquire the whole of the property referred to; and if they did so they would be able to house upon it the whole of the departments which required housing, without utilising the Spring Gardens site. He saw no objection to the Whitehall site for the new War Office proposed by the Institute except on the score of expense, but he regarded their original plan for the building as being most unfortunate in the case of a public office. The revised plan was a great improvement in every way. There were many objections to the closing of Whitehall Place. A four-storeyed building would be dwarfed by Whitehall Court and the National Liberal Club, and if the five-storeyed building were decided upon the building suggested by the Institute would be too large. The diversion of Whitehall Place, as proposed by Mr. Edis, was far preferable to the closing of it, as suggested by the Institute. The respective areas, under the plans for the new War Office, of the Office of Works, the Institute, and Mr. Edis were 111,000, 155,800, and 125,500 square feet, and he estimated that the cost of carrying out the Office of Works plan would be about £700,000 less than either of the others. There would be great advantage in leaving the Spring Gardens site unbuilt upon, inasmuch as the open space thus afforded would form a continuation of the Mall. Having regard to the increased work thrown on the Admiralty, it was essential that the Admiralty buildings should be enlarged. As regards the Downing Street site, he considered it was desirable to take down the Chancellor of the Exchequer's house, the offices of the Patronage Secretary of the Treasury, and all the buildings except the residence of the First Lord of the Treasury, round which a handsome railing should be placed. Dover House would form a very unsuitable residence for the First Lord of the Treasury, and if it were utilised for that purpose a new Scotch Office would have to be found.

The Select Committee met again on the 21st inst., when, it is stated, Mr. Akers-Douglas's draft Report was practically agreed upon. They confirm the interim report of last year in favour of appropriating the site of Carrington House in Whitehall, opposite the Horse Guards, for the new War Office; they support the proposed widening of Parliament Street to a line parallel with the front of the Home Office; and they recommend an opening from the Mall to Charing Cross.

International Congress of Architects and Retrospective Exhibition of Architecture at Brussels.

This Congress, organised by the Société Centrale d'Architecture of Belgium, in connection with the Brussels Exhibition, will be held at Brussels from Saturday, 28th August, to Thursday, 2nd September next. The following are some of the questions to be discussed:—

1. Instruction in Architectural Art: should it be eclectic, or should it be limited to the principles of a school? What should be the programme?
2. Is an architectural diploma necessary?
3. Must one in the restoration of monuments (*a*) respect or correct mistakes of construction or errors of the ancients; (*b*) finish the portions of a work they did not finish; (*c*) suppress parts like construction or furniture for unity of style?
4. What steps should be taken to ensure to architects proprietorship of their designs?
5. By what means can a general fund be raised by architects for the protection of their common interests?

There will be an exhibition of architectural drawings and models, which will remain open to the 30th September; receptions, excursions to places of interest, and a banquet.

Tickets, price 20 or 30 francs, the latter including the banquet (without wine), may be obtained from M. Valère Dumortier, Avenue Ducpétiaux 104, Brussels. The 30-franc tickets give a right to reduction of railway fares, free journey for excursions to Antwerp and the ruins of Villers, free admissions to the Exhibition, to reserved seats at the Monnaie Theatre, and to various public buildings and gardens.

The late Hon. Charles Alexander Gore [*Hon. A.*].

Mr. Arthur Cates [*F.*], whose connection with Mr. Gore had been long and intimate, has kindly penned the following notice:—

The number of Honorary Associates has recently been reduced by the death of the Hon. Charles Alexander Gore, who, elected in 1878, soon after the establishment of that class of members, continued up to his last illness to take considerable interest in the Institute and its Journal of Proceedings.

Born on 10th October 1811, he commenced Court and official life in 1827 as page in the household of the Marquis of Wellesley, Viceroy of Ireland; and, having served in the Paymaster-General's Office and the Treasury, was in 1839 appointed Commissioner of Woods, Forests, and Land Revenues of the Crown, a position which he held with distinction till 1885, when he retired.

During the forty-six years of his office as Commissioner Mr. Gore controlled the management of the great estates of the Crown in England, and to his enlightened views is due the development of those estates in London and its neighbourhood, as well as that of the extensive agricultural properties.

He was a man of great activity and gaiety of spirit, and even so recently as the 21st ult., at his great age of eighty-five, he came up from Wimbledon, unattended, to call on the writer, as gay and brilliant in manner as when he retired. After a few days' illness he died on the 6th inst., and on the 10th was buried at Woolbeding Church, Sussex, on the estate of his daughter and son-in-law, Mrs. and Lieut.-Col. Lascelles. The Rev. Charles Gore, Canon of Westminster; Mr. Spencer Gore, head of the firm of Smith & Gore, land agents; and Mr. Francis Gore, solicitor, Inland Revenue Office, are his sons.

Mr. Justice Cave on Architects.

In the case of *Jalland* v. *Tyler and Hind*, recently before Mr. Justice Cave at Nottingham, the learned Judge, in summing up, thus delivered himself on the value of expert evidence given by architects: "This was one of those unfortunate cases in which they had to listen to what architects came and told them. There were no such unsatisfactory men as architects, for they were always at the opposite poles to one another. All other scientific men tried to come to some sort of an agreement; but architects, on the other hand, tried to contradict each other entirely. That might be due to three causes, and three causes only. Which of these causes was the correct one was not for him to say. It might be that architecture had no science whatever about it. Secondly, there might be science in architecture, but the witnesses who had been called knew nothing about it. Thirdly, there might be science in architecture, and these men might possess that science, but not have the honesty to tell them truly what it was. One or other of these things must be true, or the architects would not be found differing so widely as they always did. In point of fact they helped the jury very little indeed, and they had, so far as they could, to come to a decision with as little regard to the architects as possible."

Additions to the Library.

An omission in the Library has been remedied by the addition of the late George Gilbert Scott's *Essay on the History of English Church Architecture prior to the separation of England from the*

Roman obedience [London, 1881]. The copy recently acquired formed part of the library of the late Professor J. H. Middleton, whose autograph it bears.—The second edition of Mr. Joseph Pennell's well-known work, *Pen-drawing and Pen-draughtsmen: their Work and their Methods. A Study of the Art of To-day with Technical Suggestions* [London: Macmillan & Co.], has also been added to the Library. Mr. Pennell omits the chapter on architectural pen-drawing, included in the first edition, preferring to recommend Mr. Phenè Spiers's book on the subject. "The aim," says Mr. Pennell, "of the best men who draw architecture is to be as artistic as possible; therefore those who draw architecture are placed with other artists, not apart from them."—Professor Ussing, whose recent attack on Vitruvius will be remembered, continues the discussion in a second pamphlet entitled *Scenica, filologisk-archæologiske Betragtninger i Anledning af Dörpfeld und Reisch, Das griechische Theater*, in which he refers to the differences between Dr. Dörpfeld and Vitruvius, which confirm his view that the author of *De Architectura* was only familiar with the Roman theatre, and that he used Varro as his authority for the Greek.—Mr. J. F. Wadmore has presented a little volume consisting of a couple of Papers which he contributed to *Archæologia Cantiana*. The first of these, "The Knight Hospitallers in Kent," gives a brief historical account of the order, and a detailed list of the properties which it held in various parishes in Kent. It is illustrated, and Mr. Wadmore follows the commendable plan of always giving his authorities. The second Paper is entitled "The Manor of Old Sore and Colepeper Family at Oxenhoath, Kent."—Mr. Alex. Koch, the Editor of *Academy Architecture and Architectural Review*, has now issued the second volume of his interesting and useful publication for the current year, containing illustrations of the year's exhibits at the Academy, the Royal Scottish Academy, the Glasgow Institute of Fine Arts, as well as numerous illustrations of foreign work.—From the Collegio degli Ingegneri ed Architetti in Palermo has been received a copy of the monograph on the late Professor G. B. Filippo Basile's important building the Theatre Massimo at Palermo, and the first part of *I Marmi della Sicilia*, a collection of chromo-lithographs of Sicilian marbles, with letterpress by Professor G. S. Pace.

The Architekten-Verein at Berlin have presented, through Mr. H. Muthesius, the architect attached to the German Embassy in London, the second and greatly enlarged edition of *Berlin und seine Bauten*, a comprehensive work in two volumes containing over a thousand illustrations in the text besides separate plates, plans, &c. It would be difficult to overrate the importance of these carefully compiled, carefully edited, and excellently produced volumes in the architectural history of a great and famous city; and the thanks of the Institute are due to Mr. Muthesius (who was one of the editors-in-chief) for being immediately instrumental in procuring a copy for the Library.

The *Journal* of the British and American Archæological Society of Rome has been received from the Society, containing a list of its members and annual report, and numerous papers, including a contribution, by Professor Lanciani, on the Municipal Life of Ancient Rome. Professor Lanciani, in at once a short and an exhaustive account, deals with the tenement houses and *insulæ*, the average number of tenants occupying a house, the rules as to the height of houses, the value of rents, the regulations as to street traffic and cabs (*cisia*), the constitution of the police, the public markets, and other matters. A *précis* of a lecture delivered by Professor Marquand on the sculpture of the Della Robbia school, and other contributions, complete the number.

The *Year Book* of the School of Architecture of Pennsylvania (1897) forms a pleasant little book of its kind, containing numerous illustrations, many of considerable merit, of the students who received awards during the year.—The last quarterly part of the *Architectural Record* contains an article by Jean Schopfer on Wooden Houses in Switzerland. Mr. A. C. Nye, in the same number, explains the characteristics of Chippendale Furniture, and the difference between it and nearly contemporaneous makes with which it is so frequently confused. Mr. Goodyear presents the facts established by the Brooklyn Institute Survey of 1895 with regard to the refinement of curving horizontal lines discovered in Mediæval Italian cloisters and churches, and Mr. Barr Ferree continues his series of articles on French Cathedrals, dealing in the present instalment with those of Provence. The articles are, as usual, plentifully and admirably illustrated.—In the July number of the *Engineering Magazine* Mr. H. H. Statham writes on the disaster which recently occurred at the bazaar in the Rue Jean-Goujon, Paris, and considers generally the question of the safety of temporary structures. Mr. Edwin Sachs has prepared diagrams for the article.

Owing to the courtesy of the Secretary of the Surveyors' Institution, the last six volumes of the *Professional Notes* of that body have been received, so that the set in the Library is now complete.

The President of the Institute has had bound in red morocco, at his own expense, an extremely rare and precious little work of Alberti, entitled *Hecatomphila*, which reveals the great Florentine architect in a sentimental aspect. The volume was published in 1534, and was presented to the Library by the late Sir M. D. Wyatt.

Miscellaneous.

Mr. Percy Morris, *Student R.I.B.A.*, has been awarded the Cates Prize for Testimonies of Study prepared for the recent Final Examination.

Mr. John Burnet [*F.*], of Glasgow, was recently presented with his portrait by a number of friends as a mark of their esteem, and as a memorial of his golden wedding celebrated in 1895.

Mr. John Cotton [*F.*], of Oxford, the author of *Song and Sentiment*, has recently published another volume of verse under the title of *Thoughts and Fancies* (Simpkin, Marshall).

Next session is the Jubilee of the Liverpool Architectural Society. The Council of the Society propose to establish a Travelling Studentship to be awarded at the end of each session.

Mr. H. Phillips Fletcher [*A.*] has been appointed Surveyor to the Carpenters' Company, in the place of Professor T. Roger Smith [*F.*], who had held the appointment for many years, and who has now joined the Court of the Company.

The Mexican Government invite competitive designs for their proposed new Houses of Legislature, to be built at a cost of 1,500,000 dollars. The conditions of competition may be seen in the Library.

The Institute has subscribed ten guineas to the fund being raised for the Leighton Memorial, which is to take the shape of an altar-tomb to be placed in the north aisle of the nave of St. Paul's. Mr. Brock, R.A., has been entrusted with the work.

The decease is regretfully recorded of the following members:—On 12th April, Charles James Gladman, *Associate*, elected in 1881. On 23rd inst., George Elkington, *Fellow*, elected in 1854, and transferred to the Class of Retired Fellows in 1895.

Mr. John Rennie Cockerell, late of the Madras Civil Service, whose death was recently announced in his sixty-seventh year, was the second son of the late Charles Robert Cockerell, R.A., Royal Gold Medallist 1848, and President 1860.

Mr. Alma Tadema [*H.A.*], R.A., receives one of the five gold medals in the Fine Arts section of the Brussels Exhibition, two others going to French and two to Belgian artists. Mr. J. L. Pearson [*F.*], R.A., F.S.A., has gained the only medal awarded for architecture.

Mr. Francis W. Bedford [*A.*] has been appointed one of the Hon. Secretaries of Section II. (Architecture and Engineering) of the Sanitary Congress to be held at Leeds in September. Gentlemen willing to read Papers in this section should communicate with Mr. Bedford at 12, East Parade, Leeds.

The programme for the next session of the Sheffield Society of Architects includes the following Papers by members of the Institute:—"Eighteenth-century Architecture," by Mr. J. Alfred Gotch [*F.*], F.S.A.; "The Warming of Public Buildings," by Mr. F. R. Farrow [*F.*]; and "Proportion," by Mr. Hugh Stannus [*F.*].

THE OWEN JONES STUDENTSHIP 1896.

MR. H. C. CORLETTE'S TOUR IN FRANCE.

It will indicate the parts of the country through which my companion, Mr. S. Carey Curtis, and myself passed if I state the names of the towns that we saw from Dieppe to St. Savin. They were first Tôtes, then Rouen, Pont de l'Arche, Louviers, Evreux, Nonancourt, Dreux, Chartres, Châteaudun, Blois, Montrichard, Loches, Châtillon, Le Blanc, and St. Savin. At Rouen, Evreux, and Chartres we saw chiefly glass, and also at Dreux, where much really good old glass still remains in excellent preservation. In the apse, high up, are large single figures in each light, a fine effect being produced by the blue ground in which they were placed. This blue ground may be of recent date, as the glass was more or less "restored" in the forties and fifties; but whether the arrangement be the result of re-setting or not, the general effect is good. The Church of St. Pierre, in Chartres, we found after a little searching. It was dirty, but full of lovely glass, finer than some of the same date which we saw later in the cathedral. In the apse are twelve large panels of the apostles done in Limoges enamel. The colour in these seems weak and poor, in contrast with the brilliance and depth of colour in all the windows. St. Aignon, another church, has been painted up, from top to bottom, in a marvellous fashion. The colouring is bad, as is also the case with most of the designs, of which there is a large collection. The work possesses no sense of unity, and all feeling of repose is banished from an otherwise fine interior. The eye has to penetrate all the applied contrivances before it can perceive the excellent skeleton they seem designed to hide. The glass in the cathedral is so well known that it is unnecessary to do more than state that, as a book of lessons on proportion and subordination in colour-grouping, and the value of line in polychrome decoration, it should be studied by all who presume to a knowledge of such work as was produced in this branch of craftsmanship.

Between Châteaudun and Blois we saw in the small church at Charray some old colour work on the roof. The ceiling was arched in form, and the colours used were red, black, white, yellow, and here and there slight traces of green. All the shades were quiet in tone, no one being more noticeable than another.

In the château at Blois there is good work, in which brick and stone have been skilfully combined; but, unfortunately, we were not able to see as much there as we had hoped. The church at Loches was interesting, but the only appearance of colour noticeable was that on the richly carved west doorway within the large vaulted porch. From this point we rode through Chatillon and Le Blanc to St. Savin, where we examined the Abbey Church. This is quite a surprising design internally. From the west end there is a descent by a number of steps into the nave through a large porch the barrel vault of which is covered with paintings. The walling above the door which leads into the nave from the porch is also painted. In the nave the visitor is impressed, first by the great height of the columns which carry the arcade, and then by the great length to the intricacies of the columns and chapels at the east end, beyond the choir and chancel. Then the comparative narrowness of the nave becomes evident, in relation to the height of its painted barrel vault from the floor. You next realise, as a part of your first impression, that the aisles, too, are narrow and barrelled, with the round arches of the nave arcade running into them and forming intersections. High up in the side walls north and south, and centered between the arcade piers, are the windows, very simply splayed and roundheaded. All the walling and vaulting inside the building is plastered, and on this plaster, which is very thick, the colour decoration has been done.

To study colour in its connection with building it is always necessary to refer to and constantly consider all the forms to which it is applied, or of which structurally it forms a part. To do this properly, in the particular instance we had decided to study, it became necessary to measure completely the whole building. Thus alone were we able to obtain drawings which would enable us to form some true idea of the relation of the various scales of colour, of form, and the ruling and subject proportions, which, united in one whole, were the elements which produced the quiet grandeur of all this mass of works in unity combined. There is no such thing as mathematical precision and regularity in the building. The setting out of large dimensions is accurate within certain limits, but exact likeness in similar parts was not the sole end at which the designer and designers aimed. The arches from pier to pier in the chancel are all different, though similar, and each becomes less in span as the eastern one is approached. The chapels round the apse of the chancel are all very irregular on plan. They have semicircular barrel-vaults which fall over and meet the segmental ends. The arches of the nave arcade are not moulded at all, but painted only on the plaster, and the manner in which this has been applied is in no way an imitation of moulding. The decoration thus applied is designed as an application, and not, as is too often the case, by using one method instead of another, and adopting for the new treatment those characteristics which are peculiar to the character inherent in the one supplanted. In the spandrils of the arcades are large painted figures. The columns all down the nave have simple moulded abaci and boldly carved lower parts to the caps. Their only base now is an extra thickness of plaster. But in one case, where the floor paving stones were torn up, and some of the plastering of the columns removed, a large base was visible, which, to judge by the mouldings, would make the original floor level at least eighteen inches or two feet lower than it is at present. From base to cap of all the columns the plastering—which is about half an inch thick—is covered with a peculiar striped colouring set on in spiral form. It is not unpleasant in appearance, but that now visible is a restoration, painted over what was there originally. We were told that the lines of this were the same as were the old; but in what degree this statement may be accepted as applying to a like similarity between the new colouring and that defaced none, perhaps, can tell. Two of the columns near the west end were on one face covered with patterns and figure work similar to some in the chancel, transept, and chapels. These patterns are to be found all over the church in great variety. Above the porch at the west end and in the tower is a large apartment known as the tribune. Its walls are still covered with remains of painting in much the same style as that in the nave and porch. So much of this work as is still preserved leads rather to the conclusion that it was done later than what appears in other parts of the church, as the drawing is better in some instances. One subject in this series was evidently the descent from the Cross. Most of the others consist of representations of the bishops and saints of the church.

All the vaulting over the nave, from the eastern face of the western porch to the western arch of the tower at the crossing, is richly and beautifully painted. Except where the plastering has been entirely lost, this is all in excellent preservation. The subjects of all this decoration are derived from sacred history. An architect is not so equipped that he is able to make studies of painting as well as should be the case were his whole time given to the practising and development of this means of expression, as is the case with a painter. So these notes of the colour schemes in their decorative effect must fall below the standard that would be necessary to present adequately the particular features of the work. But, nevertheless, they are perhaps a record sufficiently accurate to indicate to others in a general manner what the work is like in its present condition. The chief object before my mind was to try and represent with truth the relative value of the different colours used, so far as they were purely decorative in their original intention. In doing this it was necessary also to observe and in a measure represent the differences of surface which were noticeable. For unless the texture of a material be used as a means of expressing its characteristics, much interest and power is lost. It should never be dealt with so that it is made to seem something other than it is. The effect, good or bad, of any decorative work very largely depends upon a recognition and use of such qualities as a part really of any design. It is the same whether this design is an application only to a surface, or whether it is more purely structural in its decorative use. Much of the objection we hear to some recent work may be traced as being probably caused by a thoughtless disregard of these matters both by the architect or other craftsmen.

The decoration of the chancel is very different from that in the nave. The vault is higher, and the sizes of the relative parts are much smaller. This has naturally claimed a difference in treatment: the surfaces are more divided, and the proportions are dealt with as the change in scale has required. The vault, and its termination in the apse, are here decorated in purely conventional forms, which, in their disposition, partake of a somewhat geometric character. The many small chapels congregated round the main apse were evidently at one time profusely covered with rich decorations: these have largely disappeared. But those parts the decoration of which still remains complete sufficiently indicate the extreme richness and delicate care with which they originally were furnished. Unfortunately, no old glass remains. The pavements are mere flagstones, and the only other decorations are the wet bright green patches which cluster thickly along the lower parts of the aisle walls of the nave. No doubt this is accounted for by the difference between the floor and the level of the ground outside, the absence of asphalte, and the want of a damp-course. It has been said, "They dreamt not of a perishable home who thus could build." Perhaps not, or they would have made better provision.

While still staying at St. Savin, we on one occasion rode out to Montmorillon, and there saw some colour-work in the lower chapel of what we understood was known as the octagon. This, though designed in the same peculiar minor themes of colour, was in far better condition than any of that we were studying in the Abbey Church. It was all figure-work, and has very distinct indications of Greek feeling in it, combined with some features we are accustomed to associate with our thoughts of Gothic work of an early date. This is a result, no doubt, of the Byzantine relations with some of the southern parts of France.

Leaving St. Savin we passed through Poitiers, Civray, and Souillac, seeing little but restored colour, and went on to Albi. Here is a magnificent piece of building, a figure of stately dignity and real grandeur. The interior is truly splendid and thrilling, comprising within itself immense bold size, and the most delicate and cultured sensibility of finished craftsmanship. The whole of the vast expanse of the vault is covered with decoration by foliage and figures. The groundwork is a lovely blue on which the scrolling leafage and enveloped flowers with figures are drawn in white, softened by a shadowy grey; and the points to which this all is subordinate are groups of saints and angels, painted in rich fresh colouring, set about in burnished gold.

That Cecilia is the patron saint of the church perhaps accounts for the unusual beauties of the choir, which, besides its rich and delicate tracery and canopy work, possesses some of the best Gothic sculpture, in date belonging to the latter part of the fifteenth century. Each figure, cut in a fine grained stone, is painted, and stands in its niche. A few are a little mutilated, the others are in good condition. Of these figures, seventy-two are statuettes of angels, and the rest are of the apostles, saints, and prophets. Under the organ at the west is some work which has been painted directly on to the huge brick walls, circular on plan, of two of the tower supports. The lines of all the brick jointing show through the thin coat of paint on account of the absence of any plaster ground. The result is interesting and beautiful, more especially as the drawing of the very numerous figures has not suffered in the least. The colouring, too, is still fresh and good. M. l'Abbé Graule, who by his office in connection with the Cathedral, and his extreme kindness, enabled us to proceed with our work without trouble of any kind, said on one occasion that he understood that the blue ground of the vault had been painted with indigo. But if any form of indigo was used it was one of a very different hue from the pigment we now know by that name. From another source of information we learned that oxide of copper produced the blue which was used. Whatever may have been the medium there, it now is apparently as good as when it was done 400 years ago. Fortunately it has been very little, if ever, restored. The walls of the various chapels, in fact, nearly all the vertical surfaces, have been painted with a very grotesque type of work, extremely offensive; it is, perhaps, partly atoned for by the rest of the interior being, both in structure and effect, so thoroughly beautiful.

I should particularly like to take this opportunity to acknowledge, on behalf of my friend and myself, the great courtesy and kindness shown us by all of those whose work continually required their presence in the cathedral. Especially have we to thank the Archbishop for the many visits he paid us while at work in the church, and for his invitation to visit him at the palace, where he personally showed and explained to us all the many points of interest which his historic residence contains. At St. Savin, also, we met with the same thorough kindness from the several priests who were there. They took the keenest interest in the fabric of the church, and were so kindly full of appreciation and interest in what we had done.

Having finished what we had proposed to ourselves at Albi, we set out upon the third section of our journey. This was to lead us—first to Perpignan, where we hoped to find work for at least a few days, then to St. Savin, near Argèles, in the Pyrenees. The direction we took was through Toulouse, Carcassonne, Narbonne, and then along the Mediterranean to Perpignan. The church at l'Isle d'Albi is decorated in colour which is modern, but no doubt replaces, so far as that is possible, the original painting. At Rabastens there is also a great deal of colour about the interior, especially in the chancel, both in figure drawing and decorative work. In spite of the usual restoration, it contains plenty of suggestion in some of the spaces on the walls. In the apse of the cathedral church in Toulouse there is some fine glass.

The original cathedral at Carcassonne, which stands within the walls of the fortified city, is extremely interesting. The vaulting of the choir and apse bears just sufficient traces to show that it was once covered with colour decoration of apparently good design. Unfortunately, they are only traces. Nevertheless, the church contains some very beautiful glass, which is most interesting in the subjects of design, the excellence of drawing, the general arrangement of colouring, the quality and tone of colour in the glass, and the technical skill its building manifestly required.

The cathedral at Narbonne, or what there is of it, soars grandly up to immense heights in the slenderly lined interior. There is much good glass, and some of the tombs retain colouring, but most of it is rather indistinct.

With Perpignan we were greatly disappointed in our expectations of finding good colour. There were two good reredoses, one possessing some colour, most of it being in the form of panels, pictorially filled.

Finding little inducement to remain, we pushed on through the Pyrenees towards another St. Savin, near Argèles. Some of the churches in the numerous villages and towns through which our route took us possessed slight indications of having been at one time well decorated; but so many had been restored. The peculiarly situated cathedral of St. Bertrand, near St. Gaudens, contains in the enclosed choir much inlaid work in wood. The colour is all restoration. As with Perpignan, so it was at St. Savin in the Pyrenees. To see this last place we had gone much out of our way only to find disappointment. There was no colour such as we sought, only a few bad and uninteresting pictures.

Between this last-mentioned place and Bordeaux, we came across little to detain us. Arriving there, we saw what we could of the city during an afternoon, and left for Paris and London the same evening.

Hubert C. Corlette,
Owen Jones Student 1896.

REVIEWS. LVII.

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VENTILATION AND HEATING.

Ventilation and Heating. By John S. Billings, A.M., M.D., LL.D., Edin. and Harvard, D.C.L., Oxon. 8o. *New York*, 1893. *Price* 25*s*. [*R. J. Bush*, 92 *&* 93, *Fleet Street, London, E.C.*]

American Steam and Hot-water Heating Practice: Being a selected Reprint of Descriptive Articles, Questions, and Answers from the "Engineering Record." 4o. *New York*, 1896. *Price* 16*s*. *post free*. [*R. J. Bush*, 92 *&* 93, *Fleet Street, London, E.C.*]

Two books have recently been brought under my notice dealing with the important subjects of Heating and Ventilation, a knowledge of which is valuable to every one, but especially to architects. Hygiene, as a study, is receiving more attention now than ever it did, and rightly so, for on a knowledge of it depends largely the difference between the sickness and health of the individual and the community. Almost too much is demanded of the architect in the present day; but if we are to keep abreast of the requirements of the age it is vitally important that we should add to our sum of knowledge this branch also. From the impossibility to find time on the part of some already overburdened architects, and from distaste of the subject on the part of others, a class of specialists has sprung up. These are often of very great help in the initiation and developing of comprehensive schemes of ventilation for large and important buildings. But as amongst specialists there are many diverse theories and opinions, it behoves all architects, if they are unable to master the subject sufficiently to undertake such work themselves, yet to know enough to have clear ideas as to the system best suited to the requirements of their buildings, and to arrange their plans accordingly.

It must always be borne in mind that the climate, the country, and the people are to be considered in all treatises written upon these special subjects. Many most excellent books have been written by English authors, and many also by American writers and others; but in adapting their statistics, data, and conclusions these differences I have referred to must always be taken into consideration.

In Canada and the northern part of the United States, where, as a rule, the changes of temperature are great, some system of artificial heating is essential, and what is the exception in Great Britain is the rule there.

It is a constant wonder to those who visit England in winter to see how the raw chilliness, cold, and consequent discomfort of the houses, is endured—a state of things which would not be tolerated in the United States or Canada. I think it must be admitted that the open fire, however delightful an institution it may be, is neither a satisfactory nor a scientific mode of heating houses and buildings. Of recent years many inquiries have been made as to the best systems of heating, and many have been tried; it is therefore opportune that this subject in all its bearings, in conjunction with ventilation, should have been treated so fully and so ably in the two books to which I have referred, viz., *Ventilation and Heating*, by Dr. Billings, published by "The Engineering Record," of New York, and *American Steam and Hot-water Heating Practice*, being a reprint of selected articles, &c., which originally appeared in that journal.

Dr. Billings needs no introduction to English readers; he is already well known by his previous writings, and by his researches in hygiene and hospital arrangements, and is the Director of Hygiene in the University of Pennsylvania. This recent book, published in 1893, includes all that is practically important in his previous work on the *Principles of Ventilation and Heating*, and in addition contains a great deal of new valuable matter, and over 200 diagrams and illustrations. The work is divided into twenty chapters.

The introductory chapters treat of the utility of ventilation, and the evolution of efforts in that direction, the properties of the atmosphere, of carbonic acid, &c. Then come chapters on the physiology of respiration, moisture in the air, the quantity of air required for ventilation, the forces concerned in the process, and the various methods of testing. Then special modes of heating, the theory and methods of testing air currents, the devices adopted by various ventilating engineers, examples of buildings, such as hospitals, schools, dwellings, &c., are given with clearly shown diagrams, plans, and sections of the various methods.

The plans and sections of many important public buildings, such as the New York Hospital, the Johns Hopkins Hospital, the Capitol, the Lenox Lyceum, the Grand Opera House in Vienna, the Opera House at Frankfort, and many churches and schools will be found convenient for ready reference. The book closes with a chapter on the ventilating of tunnels, ships, railway cars, prisons, &c. The work is treated—perhaps naturally enough—from an American point of view, and shares, in common with much of modern United States literature, the fault of not giving sufficient credit to the researches and achievements of distinguished experts in other countries, and of ignoring thereby valuable work. This fault is sometimes the result of ignorance, but oftener from an almost unconscious overweening national pride. Dr. Billings, however, has made a valuable contribution to the literature of ventilation and heating.

The second book we have referred to confines itself chiefly to heating by steam and hot water, and only incidentally treats of ventilation, and is a collection of selected examples of heating plans and arrangements of a large number of modern buildings which appeared from time to time in the pages of the *Engineering Record*. They are here collected in a convenient shape for reference, and liberally illustrated; and as the book also embraces a collection of questions and answers on problems connected with this subject, it is eminently practical and not at all theoretical, and will therefore commend itself to practical men. Amongst the examples given are a number of modern residences, churches, schools, theatres, hospitals, &c.

In closing I would strongly recommend a perusal of these two books to all who are of an open mind and an inquiring disposition, and who desire to know what earnest men in the United States are doing to solve problems vital to the interests of the whole community.

Montreal, June 1897. ANDREW T. TAYLOR.

MINUTES. XVII.

SPECIAL GENERAL MEETING.

CONFIRMATION OF RESOLUTIONS *re* ALTERATION OF BY-LAWS.

At a Special General Meeting held Monday, 12th July 1897, at 8 p.m., Mr. H. L. Florence, *Vice-President*, in the Chair, the Minutes of the Meeting for the presentation of the Royal Gold Medal, held 28th June 1897 [p. 408], were taken as read and signed as correct.

Mr. Francis Hooper [*F.*], attending for the first time since his election to the class of Fellows, was formally admitted and signed the Register.

The Minutes [pp. 395–96] of the Adjourned Special General Meeting for the consideration of the Council's amended Report on the Fellows Question being put for confirmation, and Mr. Sydney B. Beale [*A.*] objecting that the said Minutes were incomplete, and, seconded by Mr. C. H. Brodie [*A.*], moving their amendment by the insertion of certain words, the sense of the Meeting was taken by show of hands, whereupon, a majority of seventeen to fifteen declaring in favour of the Minutes as printed, the same were forthwith passed and signed as correct.

The Resolutions passed at the Adjourned Special General Meeting of the 14th June in reference to the additions to By-laws 9 and 15 having been read as printed at page 396, it was

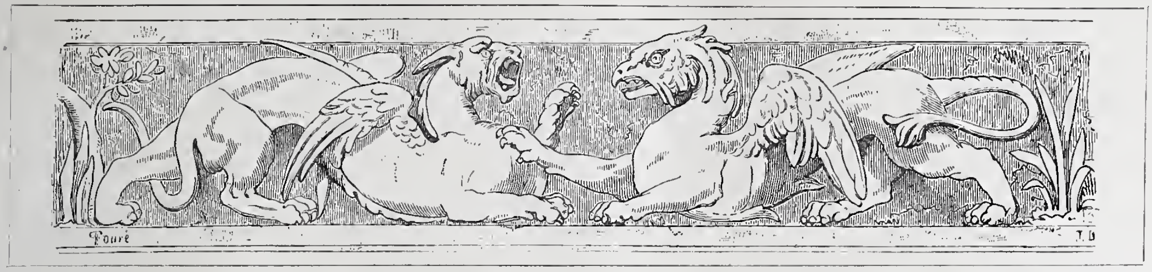
> RESOLVED, with one dissentient, that the Resolution of the Royal Institute passed at the Adjourned Special General Meeting of the 14th June in reference to the proviso to be added to By-law 9 be confirmed.

It was also

> RESOLVED, *nem. con.*, that the Resolution passed at the same Meeting in reference to the proviso to be added to clause (*a*), By-law 15, be confirmed.

The Secretary announced the results of the Preliminary and Intermediate Examinations held in London, Manchester, and Bristol, and of the Final and Special Examinations held in London, during the month of June, and read the names of candidates who had passed [see pp. 418 sqq.].

The proceedings then closed, and the Meeting separated at 9 p m.



ENGLISH MEDIÆVAL ANTIQUITIES.

By G. Baldwin Brown, M.A. [*H.A.*], Professor of Fine Art in the University of Edinburgh

THE subject indicated by the words at the head of this paper is one of inexhaustible interest, and in these modern days of the bicycle it is studied every year by a larger and larger section of the public. Guidance in the study is sorely needed, but it would be taking far too sanguine a view to suppose that books, at once broad in their views and accurate in their statements on detail, can be written at once to order. The themes to be dealt with are numerous, and most of them bristle with difficulties, so that a considerable amount of knowledge is required before an author can safely lay down those general principles which are at the same time so valuable that every writer aims at establishing them. The time has now happily passed when an English church was held to be adequately described by an account of its separate features and details. These and similar monuments must be regarded each as a whole, as a thing.

A book entitled *A Key to English Antiquities* * excites the natural curiosity of the lover of the things of old time. It may as well be said at the outset that the work in question is not an encyclopædia, nor does it claim to review systematically the whole field of our native archæology. It is a "key," in the sense that it opens a door and pleasantly invites the reader to pass through it into a region where observation and study will be amply repaid by the added interest which knowledge of the past of our land gives to the traveller alike in town and country. The book deals primarily with the monuments of one particular district of England, that around Sheffield and Rotherham, but deals with them in such a way that they are made types of the monuments of the country at large. Further, each class of antiquities is introduced to the reader by some general remarks which are applicable to similar objects wherever they may be found.

The volume is of general interest, first, because it sets an example which might with advantage be followed in many other parts of the country; and, next, because these general discussions are singularly sensible and scholarly. The authoress is already well known as a writer of history, and the reader of this new book from her pen carries with him the sense of a broad and accurate historical knowledge underlying the various disquisitions, which gives a large part of its value to the work. There are many books written with special technical knowledge, to which Mrs. Armitage lays no claim, that are obscure and unconvincing owing to the want in them of a clear apprehension of the more general questions involved. The authoress not only knows her history well, but deals with her material in a thoroughly intelligent manner, describing what the uninitiated reader needs to have clearly explained, and putting herself in the student's position with a tact and an insight that are as pleasing as they are rare.

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* *A Key to English Antiquities; with Special Reference to the Sheffield and Rotherham District.* By Ella S. Armitage, author of *The Childhood of the English Nation, The Connection of England and Scotland, &c.* Sheffield, William Townsend. 1897.

It must be understood at the same time that the book is an elementary one, and only deals briefly with each of the many subjects included in it. Had it been more voluminous it would have failed in one of its chief objects, which was to provide the resident in or visitor to this interesting district with a handy volume replete with local information that can be conveniently carried about on a ramble. In the more purely architectural portion, Mrs. Armitage is less independent than she is in regard to subjects of a more archæological kind. The architect who reads the book will not learn anything novel about his own special business, but he will assuredly rise from its perusal with a clearer idea than he had before of the extraordinary wealth of our country in objects of beauty and interest that have come down to us from Mediæval times. An intelligent epitome of this kind is just as valuable in its way as are detailed researches into special branches of inquiry.

There is one point in regard to the plan of the book as a whole where the authoress seems to have missed an opportunity. Twelve chapters deal concisely, in the manner already indicated, with the different classes of antiquities represented in the district—with barrows and rude stone monuments and dykes, with moated mounds and the castles that succeeded them, with monasteries, with parish churches and some of their fittings and adjuncts, such as tombs and crosses; and then the work ends with a chapter, one-third the length of the whole volume, giving descriptive notes on more than sixty of the Mediæval parish churches within a twelve-mile radius from Sheffield. These "Notes," though the authoress writes modestly about her qualifications as architectural critic, will be, for those upon the spot who can actually visit the churches, of much interest and value, but to the general reader they soon grow wearisome. One misses here the special quality of the book, which is, as indicated above, a certain controlling intelligence which analyses the facts, and forms groups, and rises to ultimate generalisations. There might have been attempted some classification of English parish churches from the simplest forms to those more elaborate, which should make clear by concrete examples the reason and history of all the various additions which were made, for social as well as ecclesiastical reasons, to the simple forms of the early Christian oratory. The general chapter on Parish Churches contains something of this kind in shortened form, but one would have liked all the material collected in the "Notes" to have been used for the illustration of these generalities. These sixty odd buildings, which as mere facts only appeal to those who may come into contact with them, if marshalled as illustrations of the general principles at work in church evolution in the Middle Ages, would have been more effective and of more universal value. The very order of the buildings in the "Notes"—an alphabetical one—is open to objection. In such a purely accidental arrangement there is no chance of any resemblances or contrasts emerging which would bring the churches into natural groups, and exhibit the influence of local building materials, the activity of some great abbey or some architectural school, the rivalry of contiguous towns or parishes, and other agencies which, affecting one region and not another, divide and subdivide the country into architectural districts. It may be that the churches in question offer few or no data for such grouping; but the reader has no means of forming a judgment on this. It would certainly be remarkable if the sixty or so old churches of these five hundred square miles of Yorkshire and Derbyshire did not afford some material for instructive generalisations. One would, at any rate, have liked to see the experiment tried. The whole subject of English Parish Churches is one of the finest that could occupy a writer on antiquities. The material is of vast extent, and the examples taken singly have, in most cases, been observed and commented on. Yet how little has been done to bring the material into view as a whole, by distinguishing the different types and showing how locality and epoch determined the general prevalence of each, and how circumstances account for this or that peculiar feature! To do this with effect would require no common intellectual persistence, and the authoress of this book possesses the qualities that would have enabled her to perform it, not of course for the whole country, but for the selected district.

It is perhaps fortunate—if the book had to be kept to a compact form—that no cathedral church came within the scope of the survey; but it might have been worth while to slip for a moment beyond the boundaries of the district, and to embrace for this purpose Wakefield or Southwell, so that the very interesting subject of the English Cathedral, with its insular peculiarities, could have been brought into view. The book deals with the Castle, the Monastery, and the Parish Church—three of the buildings or groups of buildings with which the history of Mediæval architecture is chiefly connected; but leaves out of account the fourth—architecturally the most important of all—the bishop's church, with its surroundings and the subsidiary buildings associated therewith. As the book claims—and rightly claims—to be much more than a superior guide to the Rotherham district, this omission, though a necessary consequence of its plan, detracts a little from its value as a general study of English antiquities.

Briefly to summarise the volume, we may pass over the subject of barrows and stone circles and other prehistoric phenomena, only thanking primitive man for his consideration for modern students in that the long-headed people made long barrows, and the round-headed ones those of a corresponding circular form.

The works of the Romans do not bulk largely in the neighbourhood, but a word or two of general import might have been said about their roads, the character of which, with their relations to the modern highways of communication, form an interesting branch of our native archæology. The chapter on "moated hillocks" introduces the reader to a debated question of some interest, viz. whether this class of earthworks is of Saxon or of early Norman origin. Mrs. Armitage opposes the view of Mr. G. T. Clark that they are Saxon of the period of the Danish wars, and explains the grounds for believing them to have been thrown up by the Norman conquerors "before the erection of stone castles, to secure themselves in their new possessions in England." An argument in favour of this may be drawn from the case of one of the grandest of these moated mounds in the whole country—that at Rayleigh, in Essex. *Domesday,* in its notice of Rayleigh (Essex, II. 43 *b*), states that it was held after the Conquest by a landowner named Suen, and that *in hoc manerio fecit Suenus suum castellum.* Suen, in spite of his Danish-sounding name, was the son of a Norman, who had been high in favour at the court of Edward the Confessor; and if, as seems almost certain, the *castellum* of *Domesday* is the existing earthwork, it would exactly bear out Mrs. Armitage's contention. In her account of the form of fortress in question she speaks of the hillock as intended to carry a look-out tower of wood, while the residence of the lord was in the base-court. This view is hardly borne out by the evidence of the Bayeux Tapestry, or the actual mounds which are so abundant in Normandy. In the illustration in the Bayeux Tapestry to which the authoress refers, the mound evidently carries the real keep or stronghold, for the keys of the place are shown in the picture as being handed out from it on the point of a lance, while the besiegers are riding up to the edge of the ditch that encircles the hillock as if there were no outer enceinte or base-court platform to keep them at a distance. Several such *castella,* or moated mounds, with wooden forts at the top, are shown in the Bayeux Tapestry, and nothing in the form of a base-court, with or without buildings on it, seems to be connected with them. There is a wonderfully well-preserved mound and ditch of this kind at Vieux-Pont-en-Auge, in Normandy, without any visible base-court, and probably this was the original and simpler form of the fortress, the base-court being a later refinement. The Saxon thane is often said in the records to possess an *aula*, or hall, no doubt of the kind shown in the Bayeux Tapestry, where Harold and his companions are seen feasting on the upper floor of a two-storeyed hall at Bosham. Such a structure could not find room on the top of one of the moated mounds, and it seems more probable that the latter form of private strongholds is really of Norman introduction, while the Saxon "burh" was not so much a citadel as a residence only moderately defensible.

The discussion of castles of stone, of abbeys, and of parish churches is introduced by a chapter on the History of Architecture in England, in which one may note that the illustrations are by no means up to the standard of the letterpress. Various characteristics of buildings are noted as giving indications of date, and amidst much that is useful in this section one may take exception to the statement on page 80 that the *chevron*, as well as the billet, is found in *early* Norman work. The chevron is one of the best criteria of date that Norman work affords; for it is distinctively *not* early, and, roughly speaking, always indicates the twelfth century. Neither in Normandy nor in England does it appear in the work of the eleventh century, while the billet, on the other hand, is, with the star, the characteristic enrichment of Norman buildings of the first generation. The billet is not even specially Norman, for it is found freely used in Northern France outside the limits of the Duchy. The chevron is valuable in the chronology of Irish architecture. It was borrowed from the Normans, and employed abundantly in the work known as "Irish Romanesque." This work, to which a far earlier date has sometimes been assigned, can, by the aid of the chevron, be in most cases assigned to the twelfth century.

Space will not permit one to follow Mrs. Armitage through her chapters on "the Evolution of the Country House," or "the Mediæval Church and Monasticism," the one illustrated mainly by Haddon Hall, the other by Roche Abbey. A special word of commendation may be said for the discussion on "Tombs and Crosses," occupying the twelfth chapter. With the subject of the former are connected very useful indications about costume and armour, which students of the carved tombs that are such familiar and interesting features in our old churches will find of much practical value. The latter, which are particularly abundant, especially in the Derbyshire part of the district dealt with, are judiciously touched, and a useful note in the Appendix gives the present state of opinion on the much-debated subject of the history and affinities of the "knotwork" or interlacing patterns which occur on these crosses. We are glad that Mrs. Armitage does not employ about these that much abused word "Byzantine," invoked by some French writers and their followers in this country as a convenient term for anything a little peculiar, the origin of which is obscure. In taking leave of the work it is necessary to notice that, if a new edition is called for, not a few statements, especially in the architectural portion, might with advantage be reconsidered, while in the use of technical terms there are corrections to be made which would enhance the value of the volume. The general idea of the book is so good that it is a pity that blemishes occur which invite the adverse notice of the technical expert.

HOLYWELL PRIORY, SHOREDITCH.

By E. W. Hudson [*A.*].

Part I.—History.

In a previous number of the Journal (p. 237 *ante*) some account of the vicinal well or spring formerly connected with this ancient religious establishment has been given. It is now proposed to collect such records as are available of the Priory, which was founded at the beginning of the twelfth century "to the honour of Christ, the Blessed Virgin Mary, and St. John the Baptist, for nuns of the Benedictine Order."

As *hal* is the Saxon term for sound health, and *hally* is the adjective form, its earliest appellation would be *Haliwell*; but subsequently we find it spelt "Halywell, Hallywell, Hallywelle, Holiwell, Holy-well, Hollywell," and even "Holloway," after the site was cut up into alleys and courts, and buildings were erected. In full, the title would be: "The Priory of St. John the Baptist, Holywell."

At first sight it seems hopeless to attempt to say anything fresh upon the subject, since Malcolm, in his account of St. Leonard's parish, wrote * :—

> As it is out of my power to add any more information to the accounts already published of the Holy-well, and the Priory of Benedictine nuns near it, I shall conclude with the valuation of Tonstall, 14 Henry VIII., etc.

The ninety years interval, however, may show a few additional items of interest. Malcolm, moreover, did not reproduce the then existing information, and as it is very scattered, disjointed, and repeated in such varying form, my object is to arrange it as far as possible chronologically, to compare conflicting, examine dubious statements, and bring it up to date. As John Norden quaintly wrote three hundred years ago :—"I desire to shape that course, which reason, Arte and time seemeth best to allowe. And for that mine oune soyle is of it selfe so barraine, as it cannot (I know) yeeld so fruitfull argumentes as may satisfie all men." John Britton much more recently complained :—"The vague, contradictory and fallacious accounts of many writers on antiquity and history tend rather to perplex than elucidate the subjects of their disquisitions." The very paucity of written records, the fact that not a vestige of the building remains to view, and, so far as I can trace, not a single pictorial or ichnographical illustration of it is available, enhance the interest with which the antiquary approaches the inquiry. Of many of the religious establishments formerly existing around London, some views, sketches, plans, and remains—something can be referred to—*e.g.* St. Mary's, Clerkenwell, St. John's, Holy Trinity, St. Mary Spittle, and St. Helen's Priories, have been more or less sketched and described; while of St. Bartholomew's, lately restored by Mr. Aston Webb, enough fortunately remains to give a good idea of its former extent and magnificence.

The well itself, around which the chief interest clusters, was doubtless a familiar object even in Saxon times, and also known to the Romans, when they laid out the great road (Ermin Street) so near to the brook, which began at the point where this copious spring burst through the clear gravel. It was celebrated and had curative virtues ascribed to it long before FitzStephen wrote of it thus: "Perclaros rivo trepidante lapillos," a quotation from an earlier writer.

The demesne of Holywell, *alias* Finsbury, in the Manor of Finsbury, was situated in the parishes of St. Giles, Cripplegate, and St. Leonard, Shoreditch, and must have been Church land from a very early date, as the well, together with that part of the field or moor whereon it arose, was given before the year 1127 to some religious women by Robert FitzGelran, Canon of St. Paul's Cathedral. Its position, a mile and a quarter from the river on the northern slope of the Thames valley, was about forty feet above high-water mark, with a slight inclination towards the south-west, in which direction also lay the remainder of the demesne. The Priory enclosure was to the north-east of Finsbury fields, and the Priory itself at the south-east corner of the enclosure. The view across the city to the Surrey hills, with glimpses of the river and the gardens on its banks, must have been a delightful one. The well water was good and abundant, and the site had the advantage of being on higher ground, and was far more eligible than the swampy and almost worthless plot given to Rahere for St. Bartholomew's.

Eleventh and Twelfth Centuries

The exact date of the above-named first grant does not appear, but Newcourt says there was a Prebendary of Haliwell, *alias* Finsbury, as early as 1104. Entick says * :—

> The spirit of religion began to manifest itself also in religious foundations in and about London. In 1081

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* *Londinium Redivivum*, 1807, vol. iv. p. 20.

* *Survey of London*, 1766.

Aldwin Child, citizen of London, founded a monastery for Cluniac monks at Bermondsey, dedicated to St. Saviour.

Then followed, in 1090, St. Giles', Cripplegate; 1102 (1123) St. Bartholomew's for Canons of St. Augustine; Clerkenwell about the same year for Benedictine nuns, and St. John of Jerusalem for Knights Templars. The last two, founded by Jordan Bliset, or Briset, stood on fourteen and ten acres of land respectively. Holywell, which is not mentioned, occupied eight acres nearly.

The stall in the Cathedral allotted to the Prebend of Haliwell-cum-Finsbury was the fifth stall on the south side of the choir, according to Ellis; not the fourth as stated by Entick, and in Allen's version of Newcourt's history.* The stall bore the legend: "Benedictus Dominus Deus qui docet manus," &c.†

Richard de Belmeis I. (the thirty-fourth known Bishop of London in order), who died 16th January 1127, is generally regarded as the founder of the Priory. He devoted all his revenues to such purposes, and lived on his private means.

Twelfth Century

1189.—King Richard I., by charter dated at Westminster in the first year of his reign, confirmed to the Church of St. John Baptist of Holywell, and to the nuns serving God there, the place on which the church now stands, with the moor or meadow in which the fountain called Holywell rises; with the lands given by Richard (de Belmeis) late Bishop of London, Walter Precenter of St. Paul's, John Hilewit and others, in addition to "all rents within the City of London as mentioned in the charter of endowment."

1195.—Divers lands and possessions were given them by Galfrid Camerarius, Galfrid and William de Melichas, Gennora de Valoniis, and others, which were also confirmed by the same King on 11th April, in the sixth year of his reign.

Robert Earl of Gloucester gave to Robert de Rothomagus a hundred acres of land in Camberwell, which the said Robert gave to the nuns of Holywell, in perpetual alms, paying the lords rent, which was half a mark per annum. Other lands in Peckham, Newelersfield, &c., were given by Solomon de Basing, Reginald Pointz, and other benefactors (to be more particularly set forth in a subsequent chapter, under the heading "Possessions").

Thirteenth Century

Except for further grants to, and sundry leases and deeds from and to the Priory hereafter mentioned, there does not seem to have been anything to chronicle during the thirteenth century.

Fourteenth Century

1318.—In this year it is recorded that Stephen de Gravesende, Bishop of London, was a great benefactor to the Priory. I cannot find whether it was in lands or in building operations. There are particulars of his career in Milman's *Annals of St. Paul's*.

Fifteenth Century

The fifteenth century is also a blank in regard to building records.

Sixteenth Century

The sixteenth century had barely opened when Henry VII. laid the foundation of his own magnificent Memorial Chapel at Westminster, having pulled down that of Our Lady for the purpose.* He expended £14,000 of the then value of money, which, multiplied by six, gives the not extraordinary outlay of £84,000. One of his chief adherents and favourites was soon to imitate his master at "Haliwell," with less permanent result, and at an outlay which has not transpired. Stow gives the following account of it:—

> Thence also up to the late dissolved Priory of St. John Baptist, called Halywell, a House of Nuns of old time founded by a Bishop of London. Stephen Gravesend about the year 1318 was a Benefactor thereto: re-edified by Sir Thomas Lovel, Knight of the Garter, brought up in Lincoln's Inn, who builded much there, and in this place in the Reigns of Henry the Seventh and of Henry the Eighth; He endowed this House with fair Landes, and was there buried in a *large* chapel by him builded for that purpose. Here he had also a Seat to dwell in.

1513.—An important funeral took place at the Priory in this year, thus recorded by Weever:—

> Sir George Mannors, Knight, Lord Ros of Hamlake, being with King Henry the Eighth at the Siege of Turney and Turivine, there took a grievous Sickness, whereupon he languished, in the same year of this their expedition to France; which was *Ann. Dom.* 1513. And according to his will was here entombed *in the Chappell*, and neare to the high Altar of this Priory.†

It is difficult exactly to locate this grave from the above description. If Lovel's own chapel east of the south transept was sufficiently completed before this year, we must either suppose Mannors was there interred before the death of the re-edifier, or else that there was another chapel north of the choir, a very usual burial place for benefactors, or a Ladye Chapel to the east of it (as at St. Saviour's, Southwark), where Sir George could have been laid behind the altar, and to this view I incline. "The Chappell" could not have been in either transept, for the recorded position of the grave would not then have applied. It appears that his body was afterwards removed to St. George's Chapel, Windsor. His effigy and that of his wife are side by side upon a tomb there, and the inscription records, "Here lyeth buried George Manors, Knight, Lord Roos," &c.

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* Entick gives a list of the thirty, vol. iv. p. 214. It is the eighth stall from the rails.

† There was also a stall for the Prebend of *Eald* (Old) Street, where at this particular part there seems to have been very few buildings fringing the road, even in the sixteenth-century maps.

* Turning out his grandmother's mummified corpse, half of which was lying about the Abbey in Charles II.'s time. Pepys, visiting the building one day, jocosely records that he "did kiss a Queen" on his thirty-sixth birthday.

† *Ancient Funeral Monuments.* 1631. P. 427.

1522.—Stow's account of Sir Thomas Lovel continues thus:—

> He made his Will December 10th in the fourteenth year of King Henry the Eighth,* therein bequeathing his Body to be buried within the Monastery of Nuns called Haliwel, in a *little* chapel there made by him.
>
> He willed his cousin Francis Lovel should have his Mansion Place at Haliwell.

1523.—In this year one Tonstall made a valuation of the monastery, namely:—

> Lands, possessions, &c., 250 marks; goods, 100 marks; fined £41. 13*s.* 4*d.*

1524–28.—There is a discrepancy also in records of the date of Lovel's death. Stow gives it as 1528; and that of Francis, his cousin and heir, as 21st January 1550. But Weever (p. 428) says he died at Enfield 25th May 1524. Besides this discrepancy of four years in the date of decease, there are contradictory accounts of the size of the Lovel chapel given by the several writers. Dodsley may have noticed this, for he omits adjectives altogether, and merely says "*a* chapel," Blomefield says a "fair" chapel, and Dugdale† a "beautiful" chapel.

A lengthy and descriptive contemporary account of Sir Thomas's imposing funeral is preserved at Herald's College,‡ which, condensed, is as follows:

> Decease 25th May 1524, at Enfield. After certain space of decease the body was leaded and taken into the chapel there, and masses and dirges said and sung for eleven days. On 6th June it was taken to his Parish Church with procession, banners, helm and crest, a chariot drawn by five horses with black trappings. The car covered with black, and a white satin cross thereon, a pall embroidered with his arms. Four gentlemen bore the banners of the Trinity, Our Lady, St. George, and St. Thomas. Lord Ros was chief mourner, and all the officers of the house and servants attended. Divine service was performed by Lord John Malyn, Abbot of Waltham. The body was left in the church all night, and the procession returned to the house.
>
> Next day at 7 a.m. mass was said, and the cortège set out for London, through Enfield, Tottenham, Edmonton, and Hackney. At Edmonton it was met by the Bishop of London and many noblemen and gentlemen; sixty long torches borne by poor men proceeded through the highway by Shoreditch Church to the "gates of his place at Holywell," where stood gentlemen of the Inns of Court and several Guilds, and the Mayor and Aldermen of London. At the door every man alighted from his horse, the corpse was taken out of the car and incensed. The Abbot of Waltham, the Prior of St. Mary Spittle, the Suffragan to the Bishop of London, with their mitres and robes, and, after incensing, proceeded through the body of the church and the nuns' choir, and so in the great choir, where he was set under a herse of an elaborate description, with a dome, figures of the evangelists, escutcheons of arms, and valance bearing crest and badge, and the words "*Dieu soit loué.*" All the Clerks of London were present, and solemnly sang the dirges and *De profundis.* And that ended they departed, the mourners with all other went home to the said place of Haliwell, the body resting within the church for the night, and being watched; and during the said dirge there was drinking in all the cloisters, the nuns' hall, and parlors of the said place, and every where else in the said place for as many as would come—which done every man went home for that night. Next day at 7 a.m. masses resumed. "Masse fynyschid the Abbott (of Waltham) with them of the quyer, came and buried the body in his chappell, under a tomb of white marbell, wiche both hit and the chappell were fonded by hym, and it stondeth on the Southe syde of the quyre of the said Church." Offerings were made, a sermon preached, and every man went to dinner; and thus ended the ceremonies.

A chantry was then founded according to his will, and two priests maintained to pray for the repose of his soul.

1524–(? 28).—Sir Henry Ellis* says it may be presumed that Lady Lovel was buried by his side, and not at Enfield, as stated by Blomefield and Le Neve; and that her supposed monument in Enfield Church is only that of a connexion of the family, who quartered the Lovel arms.

The extent of Sir Thomas's "rebuilding" at the Priory cannot now be accurately ascertained. It may have been that an apsidal choir was replaced by a square east end, at the same time and in the same style as his own chapel; or, in addition to the latter work, his other building may have been only the domestic portion of the Priory. Dodsley (1761) describes it as "an ancient Priory, which *after many repairs* was *rebuilt* by Sir Thomas Lovel, K.G."; but no particulars of repairs during four centuries are, so far as I can trace, given by any historian. As already quoted, Stow simply says Sir Thomas "builded much there."

The work may have been about the same extent as at St. Bartholomew's; but we find nothing recorded as to fire, or of the failure of the solid work of the twelfth century, nor of the falling of any central tower; and we must not assume that "many repairs" means anything of an extensive character. All that is certain is, that Lovel's chapel and work to the church itself could only have stood twenty or thirty years at the utmost before such work was destroyed at the dissolution of the monasteries. What became of the marble tomb and whether his remains beneath it were removed, has not transpired. Amid such terrible destruction of beautiful structures, few were reported upon with such fulness and ferocity as was the case with the Priory at Lewes, in Sussex.

1524–28 *et seq.*—Weever, in 1631, says:—

> In most of the *glasse windowes* of this house, these two verses following (*not long since to be read*) were curiously painted: "All the nuns of Holywell, pray for the soul of Sir Thomas Lovel."

Blomefield, however (1739–75), says they were inscribed (black-letter) on a *wall* of that House, thus:—

All ye nunns of Haliwell,
  Pray ye, both day and night,
For the soul of Sir Thomas Lovel,
  Whom Harry the Seventh made Knight.

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* Blomefield gives the date of it 14th October 1522, and proved 26th September 1528.

† Ed. of 1823.

‡ Lyson, vol. ii. p. 293–94.

* *History of Shoreditch*, 1798.

The author of *Mag. Brit. et Hib.* (1724) says, in effect, that the Priory was "rebuilt" by Sir Thomas, that he died 1524, and was buried here in a *large* chapel, and continues :—

> In most of the glass windows of the *House** these verses were painted curiously, and *not long since legible*, "All the Nuns of Holywell Pray for the soul of Sir Thomas Lovel."†

This was most likely derived from Weever, and the illegibility existed ninety-three years *ante*. Maitland (1756)‡ says: "The following lines were curiously painted in most of the glass *windows*."

It would seem to be uncertain whether the legend in any shape, either on the quarries or as mural scrolls, was in church or chapel; but the words "not long since to be read" (first written in 1631) warrant the assumption that it must have been in the domestic portion, inasmuch as the church had at that period been destroyed nearly 100 years, whereas the other part was no doubt used as dwellings. The mural painting had become obliterated, but glass would be more likely to remain intact for that time, and could have been seen up to the middle of the eighteenth century. Maitland might have seen it even then if he had looked for what he described. Ellis says that he was told by Mr. Gough at the end of the eighteenth century that he was unable to find the mural paintings—which was only to be expected, if in 1631 they were no longer visible. But some part of the remains must have been then habitable for him to attempt it.

1539 (4th Nov.).—The surrender took place in this year, the thirty-first of Henry VIII., "the church thereof being pulled down" (Stow). When the iron hand of Thomas Cromwell at the King's behest was laid upon monastery and nunnery, the spirit of resistance which centuries before was shown against papal attempts to crush and cow the English hierarchy seemed entirely to have died out. Even as Wolsey gave up his palace at Hampton as a sop to his master, so many priors and prioresses and heads of houses gave up their heritage. Willing or unwilling, however, opposition was of no avail; they left or were turned out of their homes to face the world upon the pittances granted by the King. Deeds were drawn up for the formal cession of land and buildings to his Majesty or his nominees, so that pillage might appear to be done decently and in order. The deed prepared and thrust before the nuns of St. Helen's is preserved, and though the King's assessors had the Priory seal attached ready for execution, the Sisters would not sign, and expulsion at once followed. Cromwell's zealous deputies then set to work with wedge, pick, and lever; and roof, wall, column, carved work, statuary, and stained glass came down about their ears, and sometimes the iconoclasts themselves fell victims to their sacrilegious zeal.

I can find no contemporary account of the demolition of Haliwell Priory Church, Stow merely remarking, "the church thereof being pulled down." However, that given by John Portmarus of the destruction of the splendid church at Lewes Priory leads to the conclusion that to satisfy Cromwell not a stone of either was left standing.

There is an account of the more recent, but only partial, destruction of Clerkenwell Priory given by James Howel (1657), *Londinopolis* :—

> The rebels and rabble of Kent did much mischief to this House 1381, setting it on fire and letting it burn 7 days: At the suppression of Abbeys, this House among the rest fell to the fury of fate, yet it was not quite demolished, but employed as a Storehouse for the King's toyles and tents, as well for hunting as for the Warres. But in Edward the Sixth's time, that goodly Church for the most part, I mean the body and side Iles, with the great Bell-Tower, a most curious piece of fabrick, being engraven, gilt and enamel'd, to the great Ornament of City and Suburb, was barbarously undermined, and blown up with gunpowder: the stones whereof were carried to finish the then Protector's House in the Strand, viz. the Duke of Somerset, but strange Judgments fell afterwards upon him, as is before mentioned.

The valuation of the Priory lands at the suppression is variously given, by Stowe as £293 per annum; by Weever as £293. 10*s*. 3*d*.; by Speed as £347. 1*s*. 3*d*.; another valuation equals £294. 6*s*. 1*d*.; yet another, £298. 8*s*. 8*d*.; Tanner (*ex Liber Regis*), £300. 19*s*. 5*d*. A Cotton MS. puts £347. 1*s*. 3*d*. gross, and £249. 6*s*. 1*d*. net. A Harleian MS. (only embracing part of the possessions) puts gross £273, clear £162. 13*s*. 9*d*.* A pension of £5 each was granted to two chantry priests who had been appointed by the will of Sir Thomas Lovel to pray for his soul; and one of them was alive and drawing the money fourteen years afterwards.

Ellis found in an inventory of churches, taken *temp*. Edward VI., in the Augmentation Office, this entry regarding it :—

The Chapel of Holywell within Shordiche pocha.	Sir Thomas Lovell's Chantry.	The Grocers have the landes and finde.	S^{r}. James Hurst . Penc'.	vij	iv^{s} c^{s}	o
			S^{r}. Richard Marytt . Penc'.	vij	iv c^{s}	o

(To be continued.)

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* Dodsley (1761) omits the words "of the House," and read with the context it would apply to Lovel's chapel.

† Noorthouck, *Hist. Lon.* 1773, gives the same version p. 758.

‡ *History of London*, 1756, p. 1368.

* The portion in Shoreditch is valued at £38. 8*s*., and the *Firmi terr. infra ambitum de nup. Monast.* at £10. 6*s*. 8*d*.

9, Conduit Street, London, W., *26th August* 1897.

CHRONICLE.

THE NEW GOVERNMENT OFFICES SCHEME.

Report of the Select Committee.

The following is the Report, dated 22nd July 1897, of the Select Committee of the House of Commons appointed to inquire into and report upon the manner in which the Sites available for the erection of the New Buildings required for Government Offices may best be appropriated for that purpose:—

"In continuation of our Report, dated 23rd July 1896, we beg leave to state that we have taken further evidence upon the plans laid before the Committee last year.

"Having regard to certain criticisms made from an architectural point of view upon those plans, we have thought it well to examine representatives of the Council of the Royal Institute of British Architects, and other qualified members of the profession.*

"Various alternative plans have been submitted to us by these gentlemen; but whilst we have availed ourselves of some of their suggestions we have felt unable, owing partly to the enormous cost involved, and partly to other considerations, to recommend their schemes generally for acceptance.

"Upon a review of the whole evidence, we have arrived at the following conclusions:—

"We are of opinion that the new public offices on the 'Parliament Street' or 'Great George Street' site should be erected mainly on the lines of Plan No. 1 in the Appendix to the Report of last year, with a frontage in a line with the frontage of the Home Office, and parallel to the east side of Parliament Street; but we recommend that the south-eastern corner of the new building should be square and not rounded. The land between this new frontage and the present west side of Parliament Street would, if this plan were adopted, become part of the public street; and, in our opinion, there is no need to make special provision for separating the traffic at this point.

"It appears to us reasonable, in view of the great metropolitan improvement here to be carried out at the cost of the Government, that the London County Council should be requested to consider whether they should not put into operation the powers possessed by them under the Public Offices (Westminster) Site Act of 1896, and contribute a share of the total value of the land, which under this scheme would become part of the public street.

"We recommend the appropriation of this site for the Board of Trade, the Education Department, and the extension of the Local Government Board.

"As regards the Whitehall site, having considered the alternative schemes for the War Office which have been placed before us this year, we adhere to the recommendation made in our Interim Report, being satisfied that a building satisfactory in appearance and accommodation can be erected on that site within its present boundary lines; and we are of opinion that the details as to the arrangements of buildings, courts, &c., should be entrusted to the discretion of the Office of Works, in conjunction with the architect selected. We think that a subway should ultimately be formed under the street between the War Office and the Admiralty.

"Schemes have been submitted to the Committee by the Royal Institute of British Architects and by Colonel Edis for a widening of Charing Cross and of the northern part of Whitehall; but we cannot recommend that the taxpayers should be asked to bear the cost of this metropolitan improvement, which, if undertaken, comes more properly within the duty of the local authorities.

"We, however, strongly advise that the Mall should be opened into Charing Cross on the north side of Messrs. Drummond's Bank.

"We do not contemplate the passage of any other than light traffic through the Mall, and are satisfied that the skill and experience of the police would supply satisfactory means of overcoming any difficulties of traffic which might to some extent follow such opening.

"We think that no decision should be arrived at as to building on the triangular site in Spring Gardens until the houses standing there have been removed, and the ultimate requirements of the Admiralty considered.

"We recommend that Nos. 11 and 12, Downing Street, occupied respectively as a residence for the Chancellor of the Exchequer and as an office for the Patronage Secretary to the Treasury, should be removed, as unworthy of the site they occupy; but we are of opinion that the principal block of No. 10, the historic residence of the First Lord of the Treasury, for reasons of practical necessity, and on account of its associations, should be retained, the Downing Street front being masked by erecting a new building with a good architectural façade, and the Park front being cased in stone, so as to harmonise with the north and west fronts of the old Treasury buildings, and the garden ground being enclosed with a screen or railing of handsome design.

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* The gist of the evidence given by Mr. J. Macvicar Anderson [*F.*], Mr. Arthur Cates [*F.*], and Sir John Taylor [*F.*] is printed at page 421 *ante*.

"We do not recommend any further building on this site. We are of opinion that whatever other office accommodation is required, which cannot be conveniently found in existing Government buildings, should be provided for by an extension of the Great George Street site in the direction of Delahay Street and St. James's Park, in which case some readjustment of the arrangement at present shown in the plan of the Office of Works might have to be made."

The Wallace Bequest.

The Report has been published of the Committee appointed by the Treasury to consider the housing of the collection of works of art bequeathed to the nation by the late Lady Wallace. It is signed by all the members of the Committee (of whom Mr. Alfred Waterhouse [*F.*], R.A., was one), with the exception of Sir Edward Poynter, P.R.A., who issues a short independent report.

The conditions upon which the Hertford House Collection was bequeathed to the nation are as follows:—

(*a*) That Her Majesty's Government shall agree to give a site and build thereon a special museum.
(*b*) That this site shall be in a central part of London.
(*c*) That the museum shall be a "special museum," and that the collection "shall always be kept together, unmixed with other objects of art."

The following proposals for disposing of the collection were considered:—

(i) To retain it at Hertford House.
(ii) To remove it to a building adjoining, or in the neighbourhood of the National Gallery.
(iii) To remove it to a new building to be erected upon an independent and suitable site.
(iv) To remove it to South Kensington.

As this last proposal did not seem to be in accordance with the conditions of the bequest, it was dismissed, and the first three only considered. After weighing the evidence in favour of each, the Committee decided in favour of allowing the collection to remain at Hertford House, the premises being suitably altered for that purpose. The reasons for this conclusion are given as follows:—

(i) Such an arrangement would be in accordance with the terms of the bequest, and would, in the view of the executors, give effect to the wishes of the testatrix.
(ii) It would, more than any other arrangement, preserve the distinctive character of the collection, and would retain it within the building in which its owners had placed it, and which they had adopted for its reception.
(iii) It would be much the less costly of the alternatives suggested.
(iv) It would avoid the risks inseparable from the removal and rearrangement of the collection.
(v) It would provide a museum which, owing to its complete detachment from other buildings, would be specially free from risk of fire.
(vi) It would avoid delay, and afford the public an opportunity of entering into the enjoyment of this priceless assemblage of works of art within a few months of the present time, instead of five or six years hence.

Sir Edward Poynter disagrees with the conclusion, arguing that the rearrangement of the collection in Hertford House, necessary upon the place being thrown open to the public, would entirely destroy the effect of palatial display and artistic decoration, which are the peculiar features of the house. The President of the Royal Academy urges the erection of a special museum adjoining the National Gallery.

The late George Elkington [*Retired Fellow*].

The following particulars of the career of the late George Elkington, whose death was announced in the last issue of the JOURNAL, have been kindly supplied by his son, Mr. George Elkington [*F.*]:—

The late Mr. George Elkington was one of the oldest members of the Institute, having been elected a Fellow in 1854, and continuing in that position until 1895, when he was transferred to the class of Retired Fellows. After completing his education at King's College School, he was articled to Mr. George Porter, who was at that time in extensive practice in South London. In 1847 he commenced practice, and soon established himself in Cannon Street, where, with some changes, he continued until his retirement. About 1854 he was appointed Surveyor to the Bermondsey Improvement Commissioners, and on the passing of the Metropolis Local Management Act in 1855 became Surveyor to the Vestry of Bermondsey, and retained that appointment for about thirty-eight years. Amongst his earlier works were a new school, pensioners' residences, a head-master's house, and other important works at the Medical College, Epsom, Bermondsey Parochial Offices, and the enlargement of Bermondsey Workhouse. From 1875 to 1895 he was in partnership with his son, and was engaged upon the following amongst other works: Lewisham District Board of Works Offices, Anerley Congregational Church, Penge Vestry Hall, Rotherhithe Public Baths, Richmond Baths, Bermondsey Town Hall, London Leather Exchange, and the tower, spire, and vestries, St. Paul's, Upper Norwood. Mr. Elkington served for many years on the Institute Statutory Board of Examiners. In 1895 he retired to Worthing, and died there at the age of seventy-three years.

The late Daniel Birkett [*F.*].

Mr. Daniel Birkett, of Carlisle, who died recently at Roehampton at the age of sixty, was elected an Associate in 1864, and a Fellow in 1870. He was a son of the late John Birkett, of Broomhills, near Carlisle, and was articled to the late John Dobson, of Newcastle, the architect of Holme Eden, near Carlisle, Beaufront, near Hexham, the Central Station at Newcastle, and other notable works. Mr. Birkett was the architect of the Cumberland Union Bank, Carlisle: he won the prize given by the Corporation for the best design for private residences on the Aglionby lands; and from his designs were erected the buildings on the east side of Portland Square, Carlisle. The business premises of Messrs. Hope & Bendle, in the same city, furnish an illustration of the boldness and originality of his style. He was the architect of many schools erected in the neighbourhood of Carlisle, and those of Denton Holme and Kendal Street in that city. Some ten years ago he retired from the active pursuit of his profession, and resided for the most part at Silloth.

The Old Greek Church in Soho.

Funds are required to put in repair the old Greek Church of St. Mary, Soho, which has been recently condemned by the London County Council as a "dangerous structure." St. Mary's was the first Greek church in England, having been built in 1677 by the Archbishop of Samos, who recorded the fact in a Greek inscription still visible over the west door. The church was subsequently acquired by a sect of Huguenots calling themselves "Les Grecs." and it figures in Hogarth's picture "Noon." The vicar, the Rev. Robert Gwynne, in a letter to *The Times* states that he has failed in his efforts to obtain the means for putting the church in a safe state, and now makes a special appeal to English and Greek Churchmen on behalf of this interesting historic building. His address is St. Mary's Vicarage, Charing Cross Road, W.C.

The Architectural Association.

The following are the arrangements for the ordinary meetings of the Architectural Association during next session:—

Oct. 8.—Annual General Meeting: Address by the President, Mr. Hampden W. Pratt [*A.*], and distribution of prizes.

Oct. 22.—Practical Lessons from the Paris Bazaar Fire, by Mr. Edwin O. Sachs.

Nov. 5.—Classification of Trades, by S. Flint Clarkson [*F.*]. Some New Materials for Use in Building, by H. D. Searles-wood [*F.*].

Dec. 3.—The Planning of High Schools and Endowed Schools for Girls, by Mr. J. Osborne Smith [*F.*].

Dec. 17.—House Painting, by Mr. L. A. Shuffrey.

Jan. 14.—Composition in regard to Public Buildings, by Mr. F. T. Baggallay [*F.*].

Feb. 4.—Hampton Court Palace (illustrated by lantern views), by Mr. John Belcher [*F.*].

Feb. 25.—Leadwork, Plain and Decorative (with practical demonstrations), by Mr. F. W. Troup [*A.*].

March 11.—Scottish Ecclesiastical Architecture in the Fourteenth and Fifteenth Centuries (illustrated by lantern views), by Hippolyte J. Blanc, A.R.S.A.

March 25.—Constructional Steelwork, by Mr. T. C. Cunnington.

April 22.—The Morality and Economy of Competitions, by Mr. H. B. Creswell.

May 6.—Interior Lighting (reflected lights, &c.), by Mr. W. Eckstein, C.E.; Electric Lighting as applied to Architecture, by Mr. Tom Ekin.

May 20.—Foundations as applied to London Buildings and Riverside Foundations, by Mr. A. T. Walmisley [*H.A.*], M.Inst.C.E.

The meetings will be held in the Rooms of the Institute at 7.30 p.m. on the dates mentioned.

REVIEWS. LVIII.

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ART EDUCATION.

Lectures on Art. By Sir Edward J. Poynter, P.R.A. Fourth and Enlarged Edition. Cr. 8o. Lond. 1897. *Price* 6*s.* 9*d. net.* [*Chapman & Hall, Ltd.*, 11, *Henrietta Street, Covent Garden, W.C.*]

The first of these lectures was delivered in 1869, the last in 1885. The introduction to the present edition was written three months ago. We thus have a distinguished painter and earnest teacher's current reflections on the conditions of British art during the past thirty years. As Sir Edward Poynter well remarks in his introduction, much of his earlier criticism is nowadays of an historic value. Thirty years ago his was a voice crying in the wilderness. It was an age of shams, false ideals, and complacent hideousness. "Violent blues opposed to raw red and orange and majenta patterns on arsenic green grounds are accepted by people in general as being in what we call the Gothic taste." Bunches of roses or a lapdog were considered tasteful ornaments for a coal-scuttle. Bad work prevailed in all departments of art industry. The art-training in vogue, with its rigid insistence on copying from the antique and practical disregard of the live model, cramped the draughtsmanship and arrested the imagination of our painters. Foreign schools poured contempt upon the trivialities, mannerisms, and clever trickeries of the popular English school of painting. Flabby sentimentality contested the suffrages of the million with Frith's Derby Day.

Then, after the lapse of ten years—that epoch-making decade of the seventies, when artists entered upon the heritage of the nobler ideals of the Pre-Raphaelites and beheld the revelation of Leighton's exquisite beauty, when William Morris revived the thoroughness of craftsmanship which is the essential of art—the author characterises as obsolete most of these early pronouncements; and to-day, looking backward, finds it difficult to believe that such a condition of art ever existed in England.

Of historic value, too, are the author's excursions into the hot controversies of days past. "Professor Ruskin on Michelangelo" is the subject of the Ninth Lecture, delivered in 1875, when possibly Ruskin's influence was at its zenith—or at any rate when his teaching gave rise to the fiercest attack and the blindest advocacy. But nowadays who would write otherwise than dispassionately of Mr. Ruskin? Who burns to reconcile his inconsistencies, is fired with indignation at his picturesque and exaggerated utterances? The fact is that we are living in a new age, almost, like Monsieur Jourdain, *sans le savoir.* We view Mr. Ruskin's life-work in true perspective and appreciate its grandeur. We do not stand confused by its quaint and irregular detail. His great performance has been to teach others to perform. The great mass of his art criticism is warped by his insistence on the moral idea, and by what Sir Edward Poynter calls "his general blindness to the higher qualities of art." So his name is held in reverence now, less for his particular gospel than for his impetuous apostolate, whereby he compelled the attention of England to things unheeded, and made men think, and see, and feel for themselves. But it is fighting an extinct Satan to attack his contemptuous opinion of Michelangelo.

Apart from this curious historical interest, these lectures, delivered chiefly as presidential addresses at the Slade School, have a permanent practical and æsthetic value. No one has championed more earnestly than the author, whose own work is an example of faultless technique, the vital claims of thoroughness of workmanship. No one has been more assiduous in directing the attention of students to the true aims of art, and in condemning stereotyped and deadening methods of study. It may be thought, perhaps, that being himself a figure-painter of rare excellence, the author has laid too much importance upon the figure. He meets this objection by the sound argument that if a student has mastered the live model in all its ever-varying attitudes, he will have a freedom in drawing any natural object which no other course of training could impart. On the other hand, he seems to place landscape-painting, as a branch of art, on too low a plane. He argues that the great masters despised it; that the tender landscapes of Perugino, Raffaelle, Giorgione, used as backgrounds to figures, are proofs that, had they so desired it, they could have produced landscapes pure and simple of the highest order. This seems open to question. There is a difference between using blue sky, hills and streams decoratively, and so penetrating to the heart of Nature as to be able to present some one of her truths or mysteries as the central and compelling idea of a picture. The feeling for landscape, it can hardly be doubted, is a later growth than feeling for the human form, involving as it does more refined abstraction and broader spirituality. The peculiarly sensitised vision whereby a Claude Monet can pierce through the mystery of open-air sunshine did not exist until lately, and has only been developed by centuries of evolution.

It is only here and there in these cultured and purposeful essays that the reader comes across a statement, somewhat dogmatic, which thus rouses his dialectical instincts. Such, for instance, is the condemnation in the early lectures (gracefully modified, however, in notes to later editions) of the Dutch school of Van Ostaade and Jan Steen; which leads a malicious fancy to speculate upon Ruskinian influences and the famous phrase about these painters "devoting besotted lives to the patient delineation of hogs, Dutchmen, and ditch-water." But, on the other hand, all through these pages are scattered gems of appreciations of artistic work, from the magnificent vindication of Michelangelo, the god of Sir Edward's idolatry, and the glowing praise of Turner, to the acute and delicate commendation of the stucco decoration in the Farnesina Garden, and the life in the wing of a Japanese bird.

If in this brief notice of Sir Edward Poynter's book attention has been chiefly directed to incidentals, it is because the essentials—the true and earnest teaching, the noble yet practical ideals held up for students—are beyond the reach of light criticism. Any student preparing for the practice of any art could find no truer insight into the responsibilities of his mission than in these lectures by the President of the Royal Academy.

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THE CASTLE OF VINCIGLIATA.

The Castle of Vincigliata. By Leader Scott, author of "A Nook in the Apennines," "Renaissance of Art in Italy," "Tuscan Studies," "Handbook of Sculpture," "Echoes of Old Florence." 8o. *Florence,* 1897. [*G. Barbèra, Via Faenza* 66, *Florence.*]

This book, written in English, beautifully printed, and nicely illustrated, is a welcome addition to the Library of the Royal Institute for several reasons.

Every architect visits Florence, and when there not infrequently sighs to leave the thoroughfare for a while—for a few hours it may be—as a relief from so much mental effort. This volume will lead him to the hill on the north of Florence, a rocky eminence to the east of Fiesole, on which stands the restored Castle of Vincigliata, which not only contains collections of interesting works of art brought together by an English gentleman and his Italian wife, the present proprietors of the castle, but is in itself an Italian version of the architectural revival which in this country is generally supposed to have been initiated through the writings of Sir Walter Scott.

Half a century ago the castle was a ruin, and probably had been so since the fifteenth century (the volume recounts the vicissitudes of its history), when its present owner determined to completely "restore" it, so that it not only might be a residence for himself, but might form a home or museum for his collection of Renaissance and other works of art already collected, to which have been added a number of objects from the classic garden of the Oricellari, in which the Plato Academy held its meetings till 1522. The Orti Oricellari belonged in the thirteenth and fourteenth centuries to the Rucellai family, and the gardens passed through various vicissitudes and under many hands until at length, in 1892, they were sold and destroyed. "To rescue some of the most revered relics from the final degradation of the bric-à-brac shop Commendatore Temple Leader gave them honourable hospitality in his castle at Vincigliata."

From the platform on which the castle stands a striking panoramic view is obtained of the city of Florence spread out below, whilst to the north are situated the quarries which supplied the architects and builders of Florence with the materials for their famous works.

Our author grows eloquent on the subject:—"Here came Giuliano da San Gallo and Benedetto da Maiano, who was bred among these quarries, to choose from this spot the stone for their architectural work. Michaelangelo's plans for the Laurentian Library and the great stairs leading thereto were put into stone hewn from this hollow. From this quarry, called on that account *Cava delle Colonne*, came the columns of San Lorenzo, Santo Spirito, and the choir of SS. Annunziata. The stone is of various kinds: there is a very dark grey sandstone, called by the workmen *pietra bigia*, and a pale bluish sandstone, called *pietra serena*. These have different textures in different parts. There is a rough stone, which they call *ruspe*, that withstands exposure to atmospherical influence; and a finer grain, called *pietra fine*, which is used for interiors and for sculpturesque decorations. There are some kinds, almost as hard as granite, which are known as *forte*, and others, soft and easy to work with the chisel, named *tenere*. The *pietra bigia*, being both hard and strong, is chosen for staircases in Florence.

"Through all the fifty quarries the chief sounds are the boom of the blaster's powder, echoing suddenly, or the constant ring of the stonecutter's hammer; for no less than 500 workmen are employed on this hill. Fiesole has been poetically called the Mother of Florence. Here one realises that the idea is not wholly poetic, for during all the centuries that Florence has existed the stones of Fiesole have formed it. The Etruscan walls, the Roman theatre of Fiesole itself, the Mediæval fortresses and palaces, the churches, and modern houses of Florence all had their birth from this inexhaustible hill; and not only the material part of Florence, but the soul of her art also rose from here.

"There have been endless generations of stonecutters at Maiano and Settignano, from the time when the Romans cut their friezes for the theatre at Fiesole, and later, when Arnolfo's men carved the stone for his buildings, and time after time the artisan turned into the artist. Mino da Fiesole soon left the rough *macigno* and carved his Madonnas in smoother marble; Desiderio da Settignano, Benedetto, and Giuliano da Maiano learned that stone was a vehicle to express their artistic inspirations by using the chisel in their fathers' workshops. And who knows whether the David of Michaelangelo would ever have been the pride of the Florentines if the child had not passed his babyhood amidst the ring of the hammers in these quarries, and seen the scrolls and angels emerge under his foster-father's chisel?

"So even a stone quarry has a history and artistic interest in this wonderful land which has embalmed the past."

As we are in the neighbourhood of the quarries, we are introduced to the pretty country church of San Martino a Mensola, rebuilt about 1450: "It has a nave and two aisles; a great variety of armorial bearings are sculptured in the keystones of the arches and capitals of columns. There is a treasure of art in this church which is, I believe, quite unknown to the generality of visitors to Florence. First, over the altar, to the left of the choir, there is one of the finest of Fra Angelico's paintings—an Annunciation, with the most exquisitely painted Madonna and Angels." Then follows a catalogue of several works of art in the church, and our author concludes by telling us that at the bridge over the Mensola a tramcar is waiting to convey us to Florence.

All this is interesting enough, but would not have sufficed to give the *entrée* to the columns of the JOURNAL of the Royal Institute of British Architects. There is, however, a special reason why the publication of this little volume should be noted.

Who is there amongst practising architects who has not felt the want of historical information when called upon to deal with some ancient building about which he has been consulted? Here, in England, what mistakes would have been prevented if only records had been made in parish registers or family documents of the various additions, with dates, and had been forthcoming to indicate what had been previously done to the buildings, and when! The volume before us is, at any rate, a record of what has taken place when an ancient castle has had to be restored in our own time. So careful is the monograph in recording what has been done that views of the ruin as it stood early in the century will be found amongst the 300 illustrations which serve to lead us to a knowledge of the stages of the "restoration" which was undertaken here within the last half-century.

Of the additions themselves, and the method of the "restorations," it is not the intention of the writer of these lines to criticise or even to describe. The volume will speak for itself. But it is incumbent on any one inclined to be critical to remember that, as a rule, we are without experience of buildings of this character on the soil of Italy; that fifty years ago, when these works were undertaken, our own architects called upon to "restore" even in our own country were not possessed of the archæological knowledge we now have of our ancient national buildings—to say nothing that for the most part their education had been in styles of a wholly different character.

It is necessary, then, that this consideration should not be neglected; but the fact remains that before all and above all a careful record has been made of just what has been done at this period, and that an appreciative estimate has been furnished, by the proprietor for whom the work was done, of those by whose designs and labour this costly *renouvellement* of an ancient residence has been effected.

To explain what has just been said, we are told that in looking for an architect Mr. Leader's choice fell on Giuseppe Fancelli, a young man whose studies at Florence had for the most part been confined to the prevailing Italian styles. Still his patron proceeded to train his taste in feudal architecture by taking him to study on the spot many Mediæval castles, such as those of the Malaspini in the Lunigiana, and other ancient Tuscan buildings, all of which have left their impress on his art. At any rate, a bust in white marble of the architect is placed in a niche in the quadrangle of the keep, with an appreciative inscription by the proprietor for whom the restoration was conducted.

Another gratifying and permanent record is made of the artisans employed in the decorative detail of the works. David Giustini, a stonecutter from Settignano, and Angelo Marucelli between them did all the decorative sculpture: their busts are placed one on each side of the quadrangle armoury door, and a well-known sculptor was employed to execute this record of appreciated work, for they are by Dante Sodini, a Florentine sculptor, who executed many of the marble statues for the façade of the Duomo of Florence, and in 1889 received a gold medal at the Paris Exhibition for his statue of "Fides." An enduring record is thus preserved in the very walls of the castle itself of the work done in those days.

A word must be added as to who it was that undertook this formidable architectural renovation, and had the courage to record the state in which he found the buildings, and to indicate exactly the works executed at this time. The writer of these lines can just recollect a mob parading the streets of the west of London many years ago carrying placards on which were inscribed in huge letters the name of Leader: he was a politician of what was then the extreme Left of the Parliamentary parties in the House of Commons. The occasion of the demonstration was a Parliamentary election in "the thirties," and none would then have looked forward to find in the English Member of Parliament the present proprietor of the Castle of Vincigliata.

At his castle, restored in such a conservative spirit, the Commendatore Temple Leader, as he now is, is wont to receive members of most of the royal families in Europe, and her Majesty Queen Victoria has more than once paid a visit to the place. These visits, by the way, are enduringly recorded on the wall of the castle by a medallion portrait of her Majesty by the sculptor Dante Sodini, and the likeness is exceptionally faithful.

In short, by the conservative character of everything recorded in Mr. Leader's book a valuable impress is given to the truth that in architecture and the arts the divisions caused by differing political feeling find no place; and it is well to have so complete an illustration in the work which the Commendatore Temple Leader has been able to complete. LENOX PRENDERGAST.

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IRONWORK.

Ironwork: Part II. Being a Continuation of the First Handbook, and comprising from the close of the Mediæval Period to the end of the Eighteenth Century, excluding English work. By J. Starkie Gardner. 8o. Lond. 1896. Price 2s. 3d. net. [Published, for the Committee of Council on Education, by Chapman & Hall, Limited, 11, Henrietta Street, Covent Garden, W.C.]

In an age so pre-eminently distinguished as our own by colossal works of iron construction, the title of Mr. Gardner's instructive book would have more correctly expressed its purport and limitations thus far developed had it been *Artistic Ironwork*. But it seems not improbable that this second volume of the book will prove the precursor of a third and final volume, in which the author will no longer exclude English work, and will proceed, perhaps eventually, to show how the modern ironmaster is the industrial successor to the dignity of the smith, who, as the preface of this second volume felicitously states, "was a demigod in the days of infant civilisations." And truly, if that is to be the conclusion of the author's extended work, its comprehensive title *Ironwork* will prove no longer too large for its subject-matter.

Still, it is somewhat doubtful whether our nineteenth-century Vulcan, in the present plenitude of his riches and glory, will, without some demur, recognise, in the old-world smith of Mediæval and Rococo puerilities, the prototype of his own gianthood; for it would be a fair subject for discussion whether Lord Armstrong, Whitworth, Krupp, Stephenson, Brunel, Baker, Maxim, and other modern colossi owe their greatness to ancient armourers and working blacksmiths, or should rather claim the nobler lineage of the old-world mathematicians. We may leave Mr. Gardner to thrash that question out in his third volume. Meanwhile, in this volume No. 2 we shall find sufficient reason to covet that peculiar gift so richly bestowed on the old smiths and armourers, and so severely denied to our modern engineers, viz. the gift of making all their works *beautiful.* For, whatever else our marvellous age may boast, it must confess that what it has gained of mechanical skill it has lost of artistic aptitude.

Our author's volume No. 2 on every page gives proof upon proof how, by the strokes of their deft hammers, the old-world iron kings and masters welded Art to Necessity, and married Beauty to Utility. But every modern ironclad which pushes its ugly prow through the sea, and every modern bridge which straddles its huge legs across a river in such ungainly fashion, and every wretched telegraph pole defacing our country highways, and every cage-like misery of telephone derrick which rears its naked deformity amid the domes and towers of our cities, emphasises yet more and more strongly the divorce which the genius (or the lack of genius) of our time has brought about between fancy and fact, *i.e.* between art and utility, or between beauty and truth.

While the perusal of Mr. Gardner's book helps us to a keener feeling of the contrast between the old days of romance and beauty and these our own days of science and of prosaic contempt of the beautiful in our greatest and most characteristic works, to the mind of the architect this contrast should appear as a special inducement and call to devote his energies and talents to the development and institution of a newer and nobler Order than the world has yet seen, in which the truest science may be remarried to the most perfect beauty, when the mere engineer, who is incapable of designing beautiful works, and the mere artist who is ignorant of constructive science, shall both yield place to the architect who knows how to combine, as the Divine Creator Himself has always done, truest science with loveliest art. He who would become such an architect will find in Mr. Gardner's book on "Ironwork" many practical illustrations of what can be achieved by the man of the most humble opportunities who does not despise the day of small things. The man who can, without impatience, devote his best art to the design of a small casket is much more likely to succeed in designing a great palace than the man who counts the casket too small for his great scope of artistic power.

Amid the wealth of admirable drawings which this book contains of small objects on which the old smith-artists lavished such love and devotion, it would be invidious to particularise. Suffice it to say, Mr. Gardner himself has set every architect an example of devoted thoroughness by the way in which he has thrown himself into the great and difficult task of unfolding, in some sort of historic and artistic sequence, the works of the old smiths and armourers. And although the letterpress is, for the most part, of a merely descriptive and necessarily cursory character, there are several passages of great literary beauty and interest, in which the author traces the influence of the contemporary political history and national peculiarities of the old ironworkers upon their designs and workmanship. Thus, for instance, he describes the introduction into Italy of the Rococo style, which had arisen in France, and flourished amazingly in the ironwork of Germany. He says: "It arrived when the country (Italy) was abject, and its art feeble, when it was in no condition to receive a powerful impetus, and develop and carry it further, as Germany did. The Italian ironworkers were not the men, moreover, to enjoy heavy hammering and welding; and it only suited them to produce effects in the easiest way. Iron that could be curled into scrolls, or twisted into spirals, without heat; leaves and flower-petals made of thin sheet that could be riveted up cold; collars that could be lapped round with a pair of pliers, were what they had accustomed themselves to; and the real art of smithing, which the Rococo style, especially, demands in the highest perfection, appears to have been in Italy practically lost."

Whatever pains the Italian artists may thus have avoided, to the loss of certain excellences in their Rococo ironwork, it is certain our author has spared no pains of research and study to make this second volume a worthy successor to the first; and we feel sure that no architect who reads what Mr. Gardner has so well written thus far will fail to wish that the final volume may soon follow its most able and interesting predecessors.

Sunderland. FRANK CAWS.

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FIRES IN THEATRES.

Fires and Public Entertainments. By Edwin O. Sachs, Architect, F.S.S. Fo. Lond. 1897. *Price* 12*s.* 6*d. net.* [*Messrs. C. & E. Layton,* 56, *Farringdon Street, E.C.*]

Full many a time have I wondered what the letters F.S.S. after Mr. Sachs's name meant, but now it is all explained: "The Royal Statistical

Society." Surely he deserves to be a Fellow, even if it were only for the labour of compiling the work under our notice. This consists of a list of 1,115 fires which have occurred at places of entertainment in various parts of the world, with (in most cases) the age of the building and origin of the fire, as well as some earlier records, the date of which is more uncertain.

Of the list there is little to be said. The truth will out, that if buildings subject to a considerable risk are built of and filled with material of an inflammable nature, the result, sooner or later, must be destruction; partial, perhaps, if the fire appliances and watching are good; total, if things are allowed to get into disuse and not sufficient attention is paid to the watching, as there is no doubt that if the majority of fires were discovered at a sufficiently early stage they would never become serious.

To myself, the most interesting portion of the work is the detail given of the construction of the building which was the scene of the fatal conflagration in Paris last May; and the lesson it teaches, which, if I may be pardoned for saying so, I have tried to teach in my small way for the last twenty years—*i.e.* that however good the exits are, they are not sufficient if the building be constructed of highly inflammable material such as timber becomes when subjected to the long-continued high temperature to which it is exposed in theatres and similar places of entertainment.

I regret to say that, as an assistant, I have made the drawings for some of the buildings enumerated in Mr. Sachs's list, some few even more than once, which is to me a painful admission to make, as it shows that there has not been that progress in the construction of this class of building which it would be reasonable to expect in an age like the present.

It would have been a most useful addition to Mr. Sachs's work if a list of the buildings had been given in which fires took place which were prevented from assuming large proportions by reason of the precaution taken to prevent spreading, as, for instance, in the case of the Northampton Theatre, where the greater portion of the stage was burnt, the fire doing but little damage to the auditorium, owing to the proscenium wall being of brick carried out through the roof as a sort of party-wall. If this is the case mentioned in the list as occurring on 12th February 1887, it may be observed that the theatre was opened three years previously, not three *months*, as stated. The opening night was 5th May 1884. I fancy there is also an error in the date of one of the fires at the Theatre Royal, Edinburgh, which took place on 30th June 1883, not 1884, as stated; but these are matters of detail only.

I do not see any mention made of the fire at the Court Theatre, Liverpool, which took place on the 8th January last, on which occasion the fire did not spread through the proscenium opening, owing to its being fitted with one of my fire-resisting curtains, but the flames lapped over the proscenium wall. The lesson to be learnt from this is that, generally, the proscenium wall is not carried to a sufficient height above the roof to afford adequate protection to the auditorium; in other words, the risks are not sufficiently divided. This seems to be the case in the most recent of our London theatres, which, as far as one can see from the drawings, is divided from the proposed building adjoining by a party-wall projecting very slightly above the roof.

No doubt it requires time to get all these ideas brought before the public, or their representatives, who have the power to make regulations on the subject; and more particularly, because the carrying out of these regulations is, and will be, a matter of considerable expense.

In dealing with temporary buildings, or indeed even with permanent ones, it seems to me that where the use of timber in small scantlings is unavoidable, the wood should be treated with some chemical which would render it less liable to blaze or burst out into flame: this might be done by the new process introduced from America, which is now being brought before the public, as, even if the results may not be absolutely permanent—which can only be proved by the efflux of time—it is better to make some attempt than to proceed on the old lines.

However, this is a digression from the work before me, which is evidently the result of a vast amount of information collected and tabulated for easy reference, the various tables given being of more use statistically than architecturally. If the work reaches a second edition, I should advise the addition of notes giving fuller details of the construction of the various buildings, and stating to what extent they were destroyed. No doubt Mr. Sachs's statistical mind will take a pleasure in this, and his various friends will be ready as ever to assist him.

MAX. CLARKE.

Books received for Review.

A Practical Treatise on Organ-building. With Plates and Appendices. By F. E. Robertson, C.I.E., M.Inst.C.E. 2 vols. text 8o.; plates la. 4o. Lond. 1897. [Sampson Low, Marston & Co., Limited, St. Dunstan's House, Fetter Lane, E.C.]

Oxford and its Colleges. By J. Wells, M.A., Wadham College. Illustrated by Edmund H. New. 12o. Lond. 1897. Price 3*s*. [Methuen & Co., 36, Essex Street, Strand.]

The Annual of the British School at Athens, Session 1895–96. No. II. 4o. Lond. 1897. [Macmillan & Co., 29–30, Bedford Street, Covent Garden.]

Art and Life, and the Building and Decoration of Cities. Arts and Crafts Lectures, by Members of the Arts and Crafts Exhibition Society. 8o. Lond. 1897. Price 6*s*. [Rivington, Perceval, 34, King Street, Covent Garden.]

The Mount: Narrative of a Visit to the Site of a Gaulish City on Mont Beuvray. With a Description of the Neighbouring City of Autun. By P. G. Hamerton. 8o. Lond. 1897. [Seeley & Co., Limited, 38, Great Russell Street.]

PALAIS DE JUSTICE, BRUXELLES.

REVUE DE L'ARCHITECTURE EN BELGIQUE. Par Ch. Buls

[Hon. Corr. M.], Bourgmestre de Bruxelles.

Il est impossible de se rendre un compte précis des tendances de l'architecture contemporaine en Belgique si l'on n'a une teinture de l'histoire de la construction dans les contrées qui ont contribué à former le territoire actuellement occupé par la nation belge.

Depuis l'an 965, date de fondation de l'église romane de Saint-Vincent de Soignies, jusqu'à 1830, date de la séparation violente de la Belgique d'avec les Pays-Bas, l'art de la construction à subi en Belgique la même évolution que dans les autres parties de l'Europe occidentale. Mais les Flamands et les Wallons donnèrent nécessairement à leurs formes architecturales un caractère spécial, qui découle et de leurs tendances de race et de la nature des matériaux qu'ils trouvèrent sur place.

Les schistes employés par les Wallons pour leurs édifices romans leur imprimèrent un aspect robuste et grossier. Mais même dans la partie wallonne du pays on observe l'action de deux facteurs : au sud les monuments se ressentent de l'influence française, à l'est prévaut l'influence rhénane. L'influence française se marque par une prédominance d'éléments classiques, l'influence germanique par des emprunts à l'art byzantin. Ces tendances se

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[TRANSLATION.]

It is impossible to form a clear conception of the tendencies of contemporary architecture in Belgium, unless one has some sort of acquaintance with the history of construction in the countries which have combined to form the territory at present occupied by the Belgian nation.

From the year 965, the date of the foundation of the Romanesque church of Saint-Vincent de Soignies, to 1830, the date of the violent separation of Belgium from the Netherlands, the art of construction has undergone the same development in Belgium as in the other parts of Western Europe. But the Flemings and the Walloons necessarily gave to their architectural forms a special character which proceeds both from their racial tendencies and from the nature of the materials which they found at hand.

The schists employed by the Walloons for their Romanesque buildings impart to them a sturdy and rugged révèlent encore dans la forme des clochers. Nous constatons la présence de ce double courant jusqu'à nos jours.

La Belgique cependant, plus soumise à l'influence française que l'Allemagne, laisse, avant celle-ci, l'ogive envahir peu à peu la construction romane. Mais le caractère monacal de cette dernière s'efface bientôt sous le souffle laïque ; les villes en grandissant gagnent conscience de leur force ; les communes se constituent. Le premier architecte laïque que nous connaissons, Arnold de Binche construit la jolie église de Pamele, en 1235. La construction romano-ogivale la plus vaste et la plus grandiose est le chœur de Saint-Martin à Ypres.

A partir du XIII^{e} siècle l'influence gothique devient si prédominante, qu'elle transforme complètement le style qui régnait depuis deux cents ans. L'église abbatiale de Villers (1197) marque la domination définitive de l'ogive, apparue en France vers 1160.

Nos architectes flamands bâtissent sur un plan français des sortes de halles qui rappellent les constructions de l'Allemagne du Nord.

Mais les Flamands plus rapprochés des carrières employent de préférence la pierre. Le *Ziegelbau,* la construction en briques, si commune le long de la Baltique, ne se rencontre que dans le nord de la Belgique, à l'Eglise d'Hoogstraeten. Dans la Flandre occidentale un grand nombre de maisons, entièrement bâties en briques ont des cordons et des moulures taillées dans la même matière ; la Halle de Nieuport (1480) et sa tour sont construites en briques blanches, semblables à celles que l'on confectionne encore dans la vallée de l'Yser.

La construction des églises en forme de halles, c'est-à-dire avec les trois nefs d'égale hauteur, donne plus de clarté et de légèreté à l'intérieur, mais par là elles se rapprochent des bourses, ont un caractère laïque et perdent l'aspect mystérieux des églises aux massifs pilliers et aux nefs sombres. Les Flamands furent toujours gens positifs, le mysticisme eût peu de prise sur eux. Cependant les riches marchands flamands, dont la principale préoccupation était la conservation des franchises achetées ou arrachées à leurs seigneurs, attachèrent plus de prix aux monuments qui témoignaient de la grandeur et de la puissance de la commune qu'à ceux qui devaient attester leur foi ; aussi les hôtels de villes brillent-ils encore aujourd'hui dans tout l'eclat de leur beauté, tandis que la plupart des églises sont restée inachevées.

Les églises du centre de la Belgique présentent un caractère de simplicité un peu sèche.

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aspect. But even in the Walloon districts the action of two factors is perceptible: in the south the buildings are affected by French influence, in the east the Rhenish influence prevails. The French influence is marked by a predominance of classic elements, the Germanic influence by features borrowed from Byzantine art. These tendencies are further revealed in the shape of the spires. The existence of this double current can be still noticed at the present day.

Belgium, however, more susceptible than Germany to French influence, allows the Pointed style to encroach gradually upon the Romanesque construction some while before her neighbour. But the monastic character of the latter style soon dies beneath the breath of the lay builder; towns, as they increase, grow conscious of their strength; communes assume a corporate existence. The first lay architect with whom we are acquainted, Arnold de Binche, built the pretty church of Pamele in 1235. The vastest and most grandiose structure of the transition period is the choir of Saint-Martin at Ypres.

From the thirteenth century the Gothic influence becomes so predominant that it completely transforms the style that had been prevailing for two hundred years. The abbey church of Villers (1197) marks the definite triumph of the pointed arch which had appeared in France in 1160.

Our Flemish architects build, on a French plan, kinds of market-halls which recall the buildings of North Germany.

But the Flemings, who are near the quarries, prefer to employ stone. The *Ziegelbau,* or brick-construction, so common along the Baltic, is only met with in the north of Belgium, in the church of Hoogstraeten. In West Flanders a great number of houses built entirely of brick have string-courses and mouldings carved out of the same material. The market-hall of Nieuport (1480) and its tower are built with white bricks, like those which are still manufactured in the valley of the Yser.

The construction of churches in the form of market-halls, that is to say, with three naves of equal height, gives greater clearness and lightness to the interior, but for that very reason they suggest commercial Exchanges, have a distinctly lay character, and lose that quality of mystery possessed by churches with massive pillars and sombre naves. The Flemings are a positive race, and mysticism would have little hold upon them. However, the rich Flemish merchants, whose principal concern was to preserve the privileges bought or wrung from their lords, attached a higher value to the monuments which bore witness to the greatness and power of their commune than to those which were to show evidence of their faith; so, to this very day, town-halls shine in all the splendour of

Dans les provinces orientales on constate un développement plus riche, qui va quelquefois jusqu'à l'excès.

La Flandre fut initiée à l'art de la Renaissance, soit par une importation directe d'Italie, souvent visitée par les Flamands, soit par l'entremise de l'Espagne, où nos artistes allaient travailler pour nos souverains.

Cependant le style ogival se maintint longtemps dans nos contrées. On construisit encore la chapelle du refuge de Tronchiennes, à Gand en 1607 ; le beffroi du Furnes en 1634 ; l'église des Capucins à Gand, la même année, en s'inspirant des traditions ogivales.

Les façades des églises du XVII^e siècle présentent une superposition des ordres classiques ; elles sont plaquées contre l'édifice et ne concordent pas avec la disposition intérieure ; les coupoles, si communes en France et en Italie, sont rares en Belgique.

L'aspect intérieur de ces églises ne pouvaient plus éveiller l'impression de lieux de méditation et de recueillement, comme les sombres basiliques romanes et les vastes églises gothiques ; ce sont plutôt de grandes salles de palais somptueux.

Le style de transition du

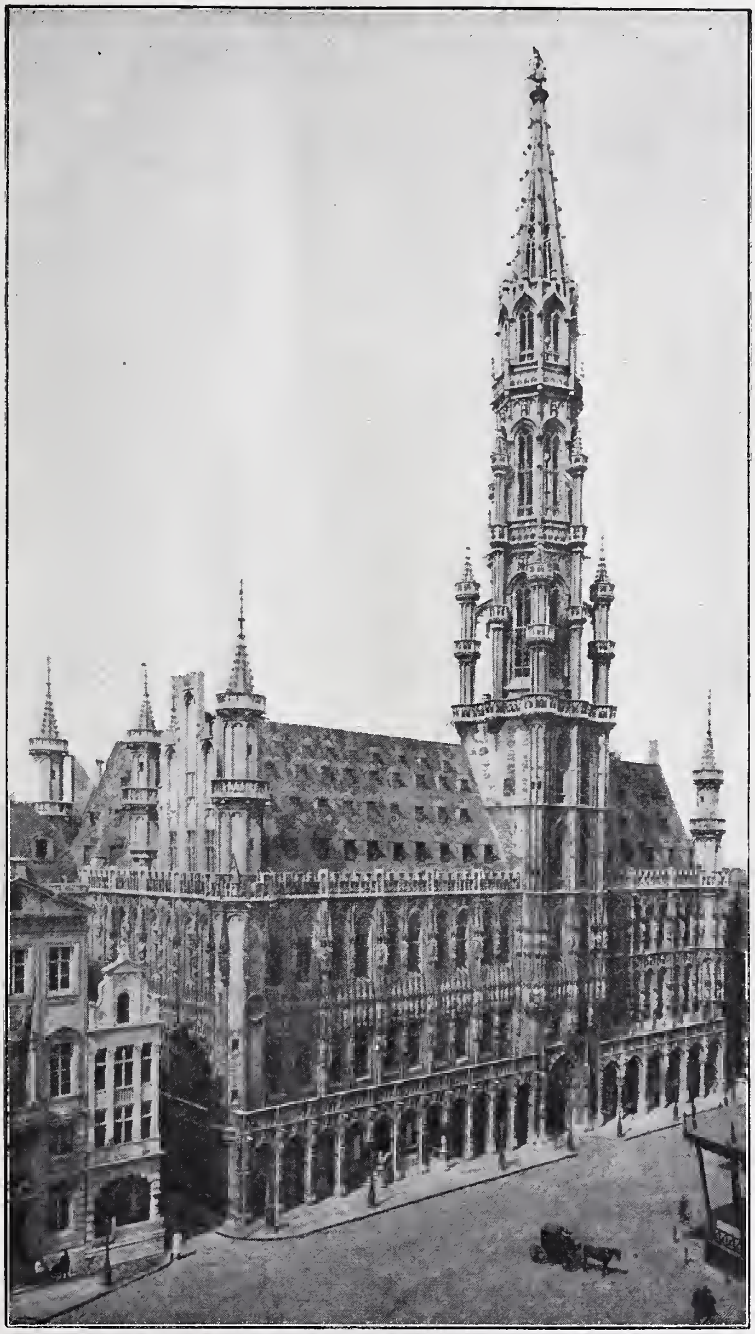

FIG. 1.—HÔTEL DE VILLE, BRUXELLES.

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their beauty, whilst the majority of the churches have remained unfinished.

The churches of the centre of Belgium present a character of somewhat arid simplicity. In the eastern provinces a richer development is noticeable which sometimes is carried to excess.

Flanders was initiated in the art of the Renaissance, either through direct importation from Italy, so often visited by Flemings, or through the medium of Spain, where our artists went to work for our sovereigns.

However, the Pointed style long survived in our lands. In 1607 the chapel of refuge of Tronchiennes was built at Ghent ; in 1634 the belfry of Furnes ; in the same year, the Church of the Capuchins at Ghent—all under the inspiration of the traditions of the Pointed style.

The façades of the churches of the seventeenth century gothique à la Renaissance a été fort heureusement appliqué par nos architectes aux monuments civils, aux grands hôtels et aux habitations particulières. Ce compromis entre les formes classiques et les exigences du climat du Nord a même reçu le nom de style flamand. Il correspond à celui qui porte en Angleterre le nom d'Elisabeth.

Le XVI^{e} siècle, époque troublée en Belgique, où le catholicisme dut emprunter au bras séculier les moyens de réprimer la réforme, ne vit bâtir aucune église. Par contre, une fois victorieuse, l'Eglise célébra son triomphe par une recrudescence de constructions, au XVII^{e} siècle.

Aux influences déjà indiquées, il faut ajouter celle de notre puissant peintre Rubens, qui, séduit par l'architecture des palais de Gênes, publia leurs plans et donna naissance chez nous à une architecture pittoresque, exubérante qui trouve son expression la plus complète dans les maisons de la Grand' Place de Bruxelles [fig. 3], reconstruites après le bombardement de 1695.

Le XVIII^{e} siècle, durant lequel on éleva, en une fois, le quartier du Parc à Bruxelles, dû à l'architecte Guimard, marque une soumission absolue à l'influence française et aux styles des règnes de Louis XIV. et de Louis XVI.

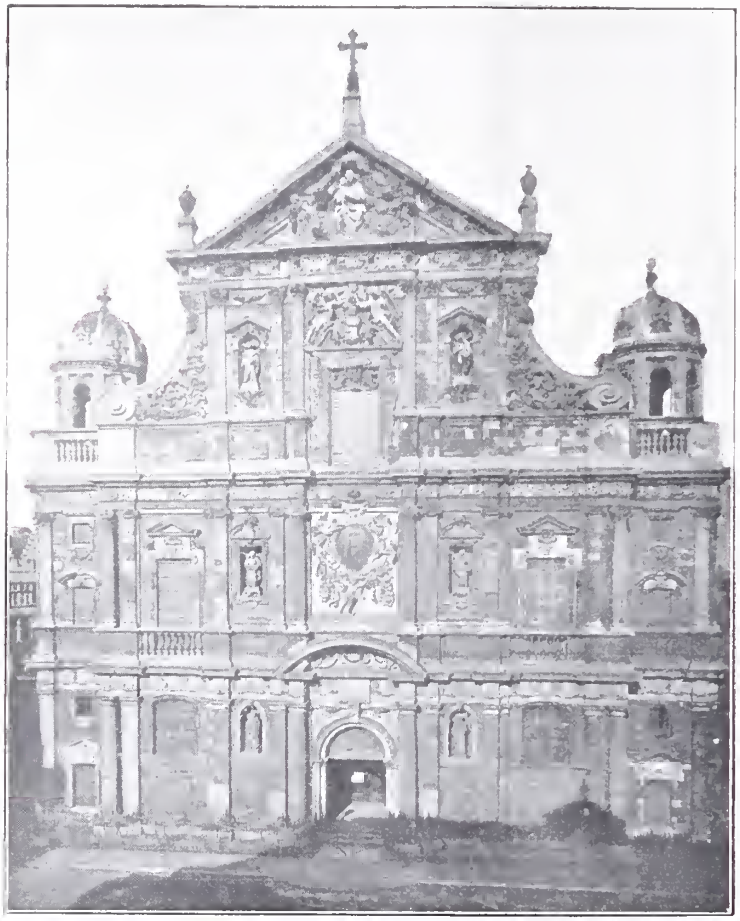

FIG. 2.—ÉGLISE SAINT-CHARLES, ANVERS.

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present a superposition of the classic orders: they are put against the edifice, and do not harmonise with the interior arrangements. Cupolas, so common in France and Italy, are rare in Belgium.

The interiors of these churches had no longer the power of awakening the impression of places of meditation and abstraction from the world, like the gloom-filled Romanesque basilicas and the vast Gothic churches; they are rather state halls of sumptuous palaces.

The style of the transition from Gothic to Renaissance has been most successfully applied by our architects to civil buildings, large mansions, and private residences. This compromise between the classic forms and the exigences of the northern climate has even received the name of the Flemish style. It corresponds with the English style that bears the name of "Elizabethan."

The sixteenth century, a troublous period in Belgium, in which Catholicism had to borrow from the secular arm the means of checking reform, saw no church built. On the other hand, however, once victorious, the Church celebrated its triumph by a revival of architecture in the seventeenth century.

To the influences already indicated we must add that of our mighty painter Rubens, who, enchanted by the architecture of the Genoese palaces, published their plans, and gave birth in our country to a picturesque, exuberant architecture which finds its completest expression in the houses on the Grand' Place of Brussels [fig. 3], rebuilt after the bombardment of 1695.

The eighteenth century, during which was built, in one operation as it were, the Quartier du Parc at Brussels, under the direction of the architect Guimard, marks an absolute submission to French influence and to the styles of the reigns of Louis XIV. and Louis XVI.

Conquered, overwhelmed with war expenses, despoiled of her art-treasures, the duelling-ground of the nations of

Vaincue, accablée de contributions de guerre, dépouillée de ses œuvres d'art, champ clos des nations d'Europe, la Belgique ne bâtit rien pendant la sombre période de la domination française. Pendant la réunion de la Belgique aux Pays-Bas (1815–1830) c'est le style sec et froid de l'empire qui domine. Le portique du Palais du Roi (1827), le Palais d'Arenberg,

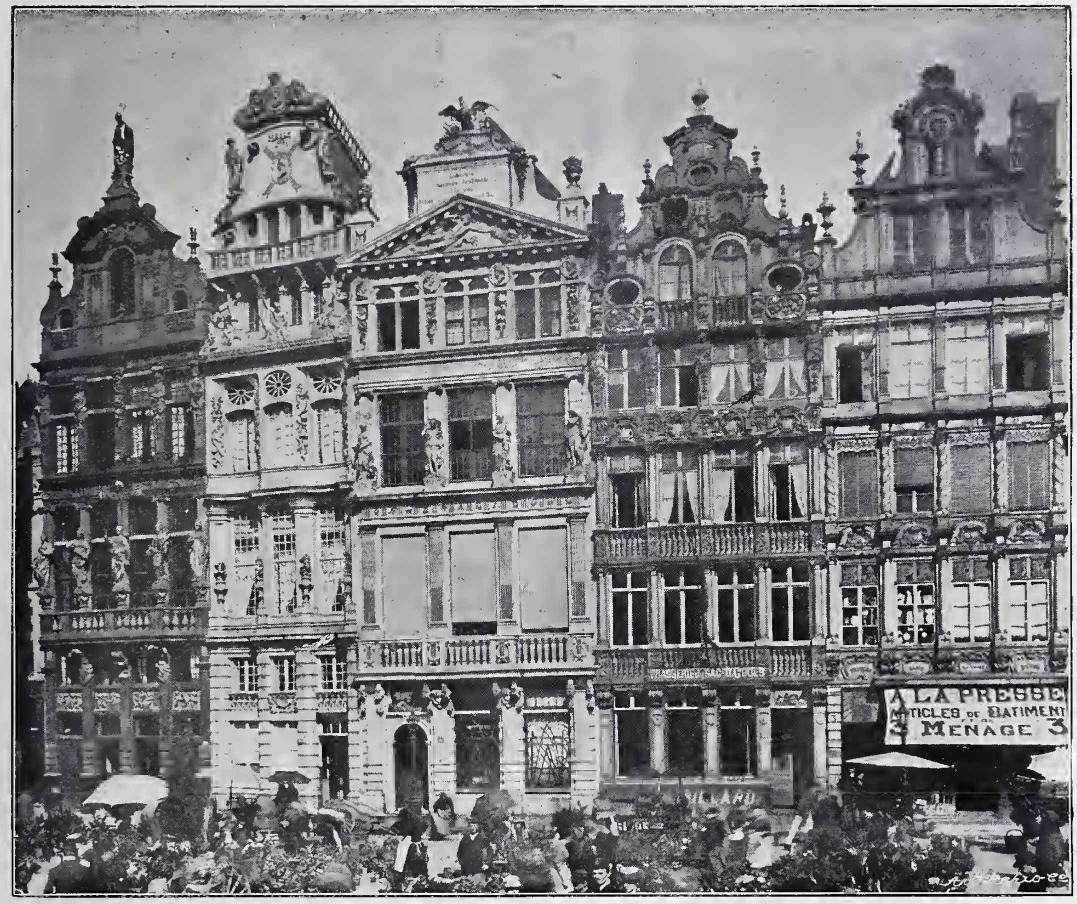

FIG. 3.—GRAND' PLACE, BRUXELLES.

Europe, Belgium built nothing during the gloomy period of the French ascendency. During the union of Belgium with the Netherlands, the cold, barren style of the Empire prevails. The portico of the Palais du Roi (1827), the Palais d'Arenberg, the Château de Mariemont are specimens. L. T. Roelandt shared public favour at this time with T. F. Suys. The University (1818), the Palais de Justice (1818), and the Casino (1835) of Ghent reveal the dulness of his conceptions.

The most brilliant pupil of T. F. Suys was Cluysenaar, who carried on the traditions of the master with some sacrifices to modern taste. The Hôtel Goethals, the Galeries Saint-Hubert, the Marché de la Madeleine at Brussels display neither salient faults nor marked originality. The Conservatoire de Musique points to a lamentable poverty of invention.

Meanwhile artists as well as the public were beginning to weary of the monotonous repetition of classic forms, so ill-suited to the northern climate, the luxurious needs of a prosperous nation, and the exigences of modern life.

The construction of three houses in the calcareous stone of Soignies, by J. J. Dumont, made a sensation. The young artist, however, had limited himself to hiding under a somewhat commonplace Renaissance decoration the poverty of the classic construction. But the charm was broken; in Belgium, as everywhere else in Europe, national feeling awakened, the people cultivated the Flemish tongue, began to sing the old popular airs, sought to free themselves from the Italian taste and the French style—in a word, to be of their own country.

Balat, the younger Suys, Beyaert, Poelaert, and Janssens were the architects most before the public eye from 1850–1880. Of these five, M. Wynand Janssens is the only one who continues to practise his art. He has been able to adapt successfully the Louis XVI. style to the more luxurious needs of modern society. He was the collaborator of

le Château de Mariemont en sont des spécimens. L. T. Roelandt partageait à ce moment la faveur publique avec T. F. Suys. L'Université (1818), le Palais de Justice (1818), le Casino (1835) de Gand révèlent la lourdeur de ses conceptions.

Le plus brillant élève de T. F. Suys fut Cluysenaar, qui continua les traditions du maître, mais en sacrifiant un peu au goût moderne. L'Hôtel Goethals, les Galeries Saint-Hubert, le Marché de la Madeleine à Bruxelles, ne montrent ni défauts saillants ni originalité marquée ; le Conservatoire de Musique accuse une déplorable pauvreté d'invention.

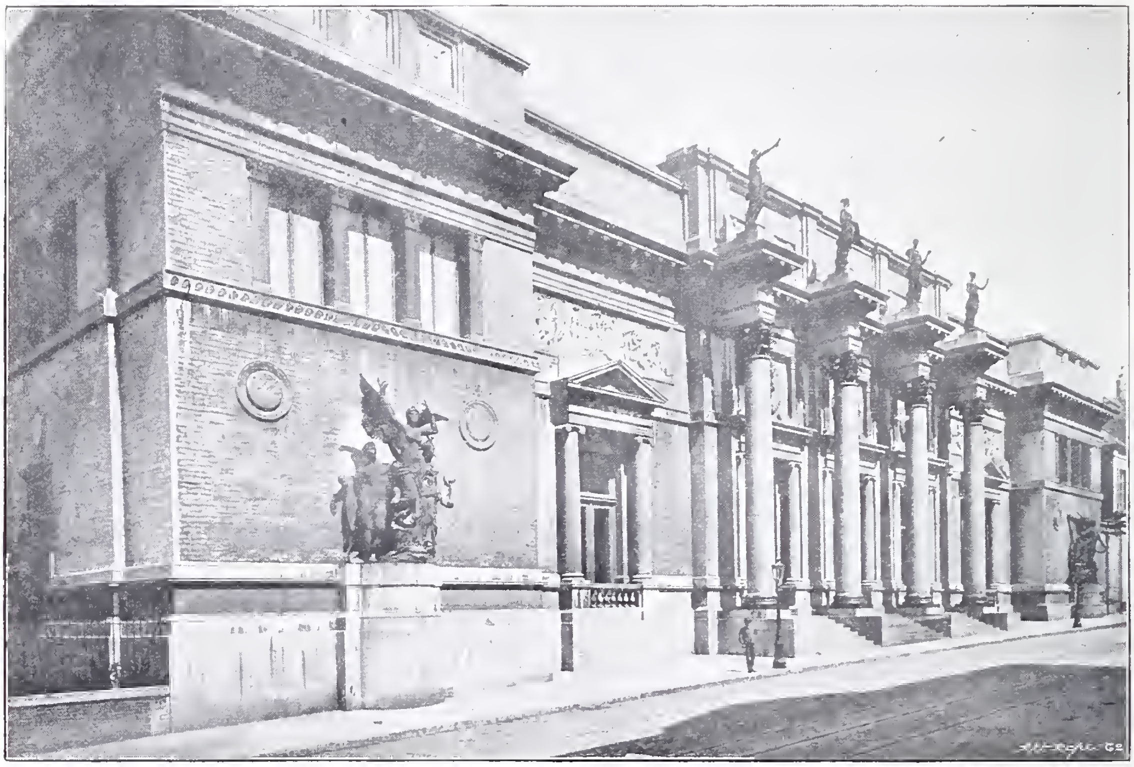

FIG. 4.—PALAIS DES BEAUX-ARTS, BRUXELLES.

Cependant les artistes aussi bien que le public, commençaient à se lasser de la monotone répétition des formes classiques, si mal appropriées au climat du nord, aux besoins de luxe d'une nation prospère et aux exigences de la vie moderne.

Beyaert for the façade and the interior decoration of the Banque Nationale: he completed the Church of Saint-Catherine, begun by Poelaert, which, like the Church of Saint-Eustache at Paris, is built on a Gothic plan in the style of the Renaissance (1850).

Curiously enough, M. Balat, who had won recognition by the Château de Mirwar, built in the style of the Flemish Renaissance, and had thereby evoked among the younger school of artists an accentuated return to this national style, remained the most faithful to the Italian traditions of the Renaissance. Greatly in favour at the Court, he was mainly responsible for keeping the architecture of official buildings on these lines, so little in harmony with national sentiment, and so little adapted to the utility of the buildings, whose symmetrical façades often cramp interior arrangements, as at the Hôtel d'Assche. The younger Suys, inheriting the traditions of his father, has parisianised the classic orders; his work is *pretty*. The two most robust temperaments were certainly Poelaert and Beyaert. The former had the more daring genius, but the latter was the better draughtsman. Poelaert had the instincts of a painter-decorator: he conceived colossal edifices like Piranesi, and had Rubens's exuberant fancy for form, wherein he was a true Fleming. The engineers and sculptors with whom he was associated had an anxious task to put into practicable form the architraves of exaggerated proportions and the ultra-projecting mouldings which he dashed off feverishly on paper. One cannot imagine a more striking contrast to him than Beyaert, whose plans were the most minutely careful drawings, with every detail clearly and definitely indicated.

Poelaert's Palais de Justice at Brussels [p. 445] will mark an epoch in the history of our architecture. Upon a massive stylobate with accentuated bossages rise huge Roman-Doric

La construction de trois maisons, en pierre calcaire de Soignies, par J. J. Dumont fit sensation. Cependant le jeune artiste s'était borné à dissimuler sous une décoration, en style Renaissance assez banal, la pauvreté de la construction classique. Mais le charme était rompu ; en Belgique, comme partout en Europe, le sentiment de la nationalité se réveilla, on cultiva la langue flamande, on se remit à chanter de vieux airs populaires, on voulut s'affranchir du goût italien et du style français, être de son pays, en un mot.

Balat, Suys fils, Beyaert, Poelaert et Janssens furent les architectes les plus en vue de 1850 à 1880. De ces cinq artistes, M. Wynand Janssens est le seul qui continue à exercer son art. Il a su adapter heureusement le style Louis XVI. aux besoins d'élégance des gens du monde ; il fut le collaborateur de Beyaert pour la façade et la décoration intérieure de la Banque Nationale ; il acheva l'Eglise Sainte-Catherine, commencée par Poelaert, qui comme l'Eglise Saint-Eustache de Paris, est construite, sur un plan gothique, en style de la Renaissance (1850).

Chose curieuse, M. Balat qui s'était fait connaître par la construction du château de Mirwar, en style de la Renaissance flamande et qui par là avait provoqué parmi les jeunes artistes un retour accentué vers ce style national, est resté le plus fidèle aux traditions italiennes de la Renaissance. Très en faveur à la Cour, il a puissamment contribué à maintenir les constructions officielles dans cette direction peu nationale, peu appropriée à l'usage des édifices et dont les façades symétriques gênent souvent les dispositions intérieures, comme à l'Hôtel d'Assche. Suys fils, héritier des traditions paternelles, a parisianisé les ordres classiques, il a fait du *joli*. Les deux tempéraments les plus vigoureux furent certainement Poelaert et Beyaert. Le premier avait plus de fougue que le second, mais celui-ci était meilleur dessinateur. Poelaert avait les tendances d'un peintre décorateur, il concevait des constructions cyclopéennes, comme Piranesi, et avait l'exubérance de formes, propre à Rubens ; par là il était bien flamand. Les ingénieurs et les sculpteurs, qu'on devait lui adjoindre, avaient fort à faire pour rendre exécutables les architraves d'une portée exagérée et les moulures ultra saillantes dont il jetait fiévreusement l'es-

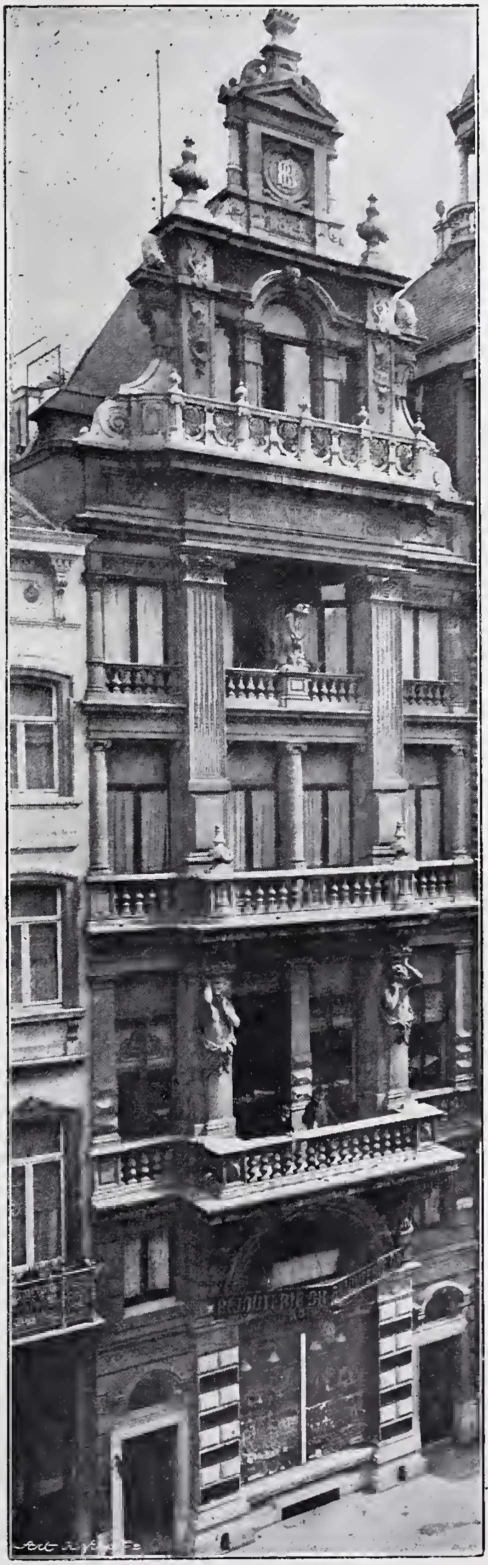

FIG. 5.—MAISON DU MATOU, BRUXELLES.

quisse sur le papier. On ne peut pas lui opposer un contraste plus frappant que Beyaert dont les plans étaient des épures soignées ; chaque détail en était nettement et définitivement arrêté.

Le Palais de Justice de Bruxelles [p. 445] de Poelaert fera époque dans l'histoire de notre architecture. Sur un massif stylobate, à bossages accentués, se dressent de puissantes colonnes en pierre bleue, d'ordre dorico-romain, cannelées aux deux tiers ; leurs chapiteaux, en pierre blanche d'Euville, supportent une architrave qui, du côté de la façade principale, est surmontée d'un attique. Cette façade est d'un caractère majestueux. Le noyau de l'édifice est, en somme, grec revêtu d'ornements romains, traités en style flamand. On y retrouve, en effet, quelques-uns de nos défauts : des entassements de colonnes, des profils exagérés, la lourdeur prise pour de la grandeur, l'amour du faste. Les saillies de certains membres d'architecture, aux pavillons de la façade principale, sont telles qu'il en résulte une confusion analogue à celle que présentent certaines de nos constructions du XVII^e siècle. Il est douteux qu'il faille attribuer à Poelaert la paternité du malheureux dôme juché comme sur des échasses formées de deux ordres de colonnes. Nous avons vu les dessins primitifs de l'édifice ;

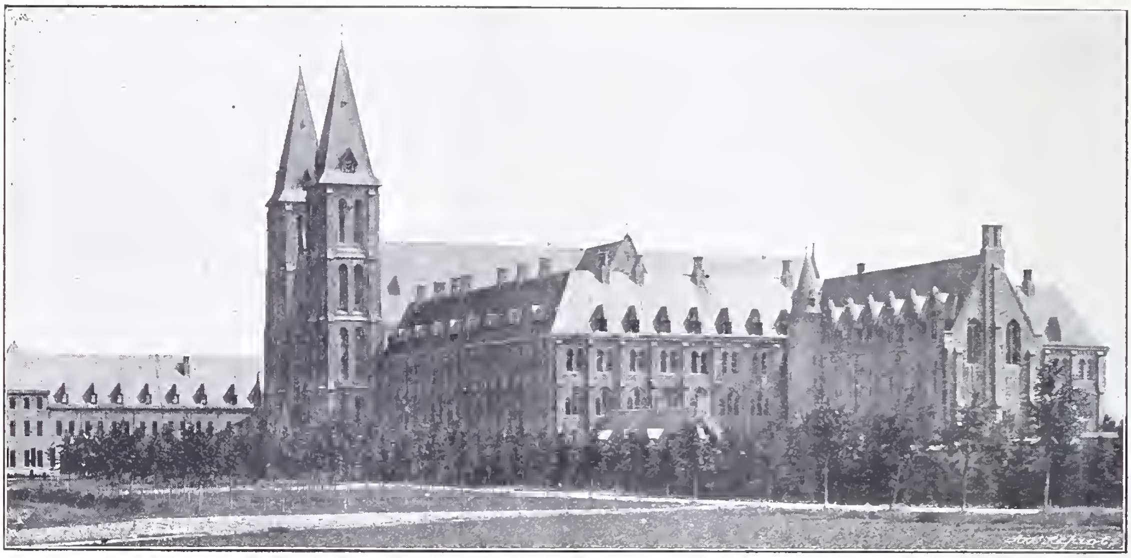

FIG. 6.—ABBAYE DE MAREDSOUS.

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columns in blue stone, fluted two-thirds of their height. Their capitals of white Euville stone support an architrave which, on the side of the main façade, is surmounted by an attic. This façade is of majestic character. The frame of the edifice is, on the whole, Greek, covered with Roman ornamentation treated in the Flemish style. In fact some of our faults are to be met with : the over-clustering of shafts, exaggerated outlines, heaviness mistaken for grandeur, the love of lavish ornament. The projection of certain architectural features in the pavilions of the chief façade is such that it results in a confusedness analogous to that presented by some of our buildings of the seventeenth century. It is doubtful whether one ought to attribute to Poelaert the paternity of the unfortunate dome perched as it were upon stilts formed of two orders of columns. We have seen the original designs for the building : it was then crowned by a superposition of horizontal flat-roofs, which better harmonised with the Babylonish character of the building than the lantern with which it has been surmounted after the death of the artist, and, if we are rightly informed, on the advice of M. Garnier, the architect of the Opéra at Paris, who was wrongly consulted, seeing that Belgium was not devoid of talented architects, who would have been more inspired than a Frenchman by our national traditions.

Beyaert, seeing the ill-success of Dumont's attempt, sought at first, in the fine mansions built by Guimard, the elements of a reaction against the style of the Empire, and applied the Louis XVI. style to the Hôtel de la Banque Nationale, giving it nevertheless a Flemish stamp, less heavy and pompous than the Louis XIV. style, less graceful and less cold than the style of Louis XVI. But soon he frankly set forth on the quest of a national style, taking up the traditions of the Flemish Renaissance, a transition from the style of the fifteenth century to that of the sixteenth.

A constructor of the first rank, Beyaert corrected the faults of this too exclusively picturesque Flemish art by il se couronnait alors d'une superposition de terrasses horizontales qui répondaient mieux au caractère babylonien de l'édifice que la lanterne dont on l'a surmonté après la mort de l'artiste, et si nous sommes bien informés, sur les conseils de M. Garnier, architecte de l'Opéra de Paris, qu'on a eu le tort de consulter, alors que la Belgique ne manquait pas d'architectes de talent, qui se seraient mieux inspirés qu'un Français de nos traditions nationales.

Beyaert, voyant l'insuccès de la tentative de Dumont, chercha d'abord dans les beaux hôtels, bâtis par Guimard, les éléments d'une réaction contre le style de l'empire et appliqua le style Louis XVI. à l'Hôtel de la Banque Nationale, en lui donnant cependant un cachet flamand, moins lourd et moins pompeux que le style Louis XIV., moins gracieux et moins sec que le style Louis XVI. Mais bientôt il se mit franchement à la recherche d'un style national, en reprenant les traditions de la Renaissance flamande, transition entre le style du XV^{e} siècle et celui du XVI^{e} siècle.

Constructeur de première force, Beyaert corrigea les défauts de cet art flamand, trop exclusivement pittoresque, en définissant nettement les lignes de ses édifices, soit qu'il les empruntât aux ordres classiques (Hôtel du Ministère des Chemins de Fer) ; soit qu'il s'inspirât de l'ossature gothique (grille du square du Petit Sablon), Beyaert rencontra justement la faveur publique et notre pays conservera précieusement ses belles constructions (châteaux de Faulx et de Wespelaer, Porte de Hal, Banque Nationale à Anvers, Maison du Matou [fig. 5] et Maison Hanrez à Bruxelles, Gare de Tournai).

Nous terminons cette rapide revue avec cet architecte de talent mort en 1894, afin de réserver notre prochaine étude aux œuvres d'architectes vivants.

Cependant, avant de clôturer celle-ci, citons encore le mouvement néo-chrétien qu'il serait injuste de passer sous silence. Des catholiques ardents, groupés à Gand autour du baron Béthune ont fondé l'école de Saint-Luc, où les élèves puisent tout leur enseignement et toutes leurs inspirations dans les modèles gothiques du XIII^{e} siècle. Cet exclusivisme a produit des résultats très remarquables au point de vue de la pureté du style ; le Béguinage de Gand, l'Abbaye de Maredsous [fig. 6] peuvent en témoigner; mais en dehors des édifices consacrés au culte ou à la vie claustrale, le style du XIII^{e} siècle convient peu aux besoins de luxe et de confort de nos contemporains. Aussi pourrons-nous constater que nos architectes actuels ont tenté des innovations un peu dans toutes les directions, montrant ainsi qu'ils ne pouvaient échapper au cosmopolitisme qui est le caractère dominant de l'art du dernier quart du XIX^{e} siècle.

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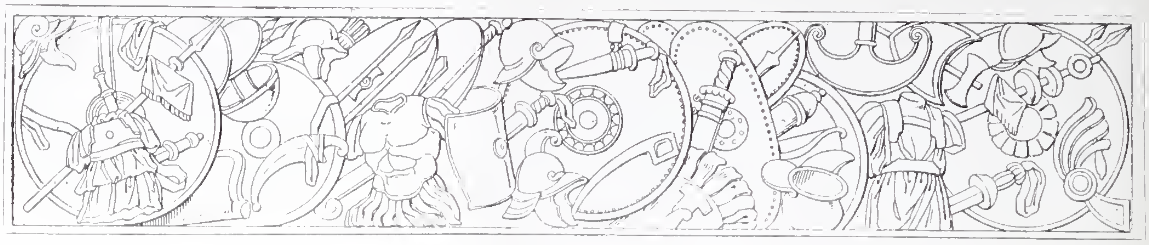
clearly defining the lines of his buildings, either borrowing them from the classic orders (as in the Hôtel du Ministère des Chemins de Fer), or by deriving inspiration from the Gothic framework (as in the screen in the square du Petit Sablon). Beyaert justly met with popular favour, and our country will jealously preserve his beautiful buildings (the Châteaux de Faulx and de Wespelaer, the Porte de Hal, the Banque Nationale at Antwerp, the Maison du Matou [fig. 5] and the Maison Hanrez at Brussels, the Railway Station of Tournai).

We conclude this swift review with this talented architect, deceased in 1894, in order to reserve our next study for the works of living architects.

Before closing this, however, mention should be made of the Neo-Christian movement, which it would be unjust to pass over in silence. Some ardent Catholics, rallying at Ghent around Baron Béthune, have founded the school of Saint-Luc, where the pupils draw all their teaching and their inspiration from the Greek models of the thirteenth century. This exclusiveness has produced very remarkable results, from the point of view of purity of style; witness the Béguinage of Ghent and the Abbaye de Maredsous [fig. 6]. But except in the case of buildings devoted to religion or conventual life, the style of the thirteenth century is but little adapted to the requirements of our contemporaries in the way of luxury and comfort. So we can conclude that our architects of the present day have tried innovations somewhat in all directions, thus showing that they could not escape from the cosmopolitanism which is the dominant characteristic of the art of the last quarter of the nineteenth century.



THE LEGAL LIABILITIES OF ARCHITECTS. By Professor KERR [*F.*].

The Law relating to Civil Engineers, Architects, and Contractors; with a Chapter on Arbitrations. By L. Livingston Macassey, Barrister-at-Law, M.Inst.C.E., and J. Andrew Strahan, M.A., LL.B., Barrister-at-Law, Hon. Assoc. R.I.B.A. Second Edition. 8o. Lond. 1897. Price 12*s.* 6*d.* [Messrs. Stevens & Sons, 119–20, Chancery Lane.]

[SECOND NOTICE.]

IN the previous notice of this treatise [*ante*, p. 369] it was thought advisable on professional grounds to confine attention to the Practice of Arbitrations, meaning by that expression the business of adjudication in building disputes through the instrumentality of a building expert, especially an architect; and it was remarked that, as a matter of course, the adjudicator ought to know—or, if the reader prefers it, every architect ought to know—"a little law." We may now be allowed to inquire, with the help of the well-arranged and considerate volume before us, what direction any one of us ought modestly to take, as an expert only in building, in order to possess himself of a sufficient acquaintance with accepted principles of legal justice in building affairs. Fortunately for such an inquiry there is a well-known maxim to the effect that English law is but the essence of English common sense; and, if this be so, it follows easily enough that an intelligent architect has no very difficult task here assigned to him.

When a dispute is one which affects the professional duty of an architect towards his employer, we perceive without surprise that primary questions of conduct may be taken to turn, first, upon his possession of architectural skill—at any rate of the practical order; and secondly, upon his faithful exercise of that skill for his client's benefit, including of course the display, not merely of intelligence, but of integrity. In commercial language skill is the article he sells; its proper exercise is the delivery of the article; and the obligation of uprightness, besides being an axiomatic consideration always, is one which assumes a special importance with relation to the particulars of duty involved in the administration of building operations by a fiduciary agent. With regard to this last point, it may be worth while to observe that the well-known formula *caveat emptor*—which really suggests to a seller that he is entitled by law to cheat a buyer if he can—does not apply in any way whatever to an architect's dealings with his employer, or, for that matter, with his builder either; for if there be any kind of business in which, even in these days, honesty is not the best policy, it certainly is not the business of the architect.

One of the curious distinctions which attach to the professional position of an architect is thus laid down in the treatise before us:—

In all matters of his employment "which do not involve any relations with third persons"—that is to say generally, while as yet he has not arrived at the actual supervision of the builder's work—he is "in the position of a skilled servant"; but when "works are being carried out" under his charge, or when "negotiations are being conducted on behalf of the client," he has ceased to be only the "servant" of an employer, and has become the "agent" of a principal. For example, he at first prepares his design as a work-and-labour servant, but he sees to its execution afterwards as a fiduciary agent. Where exactly to draw the line between the two capacities in respect of responsibility may probably be deemed a difficulty by practical men, but, if so, we may regard it as only one more illustration of the radical difference in building business between the abstractions of logic and the actualities of work. However, when the "agency" of an architect comes more prominently into view as touching the principal's pocket—say when the client has unexpectedly to deal with a heavy bill of extras, or to defend a neighbour's claim for damages or injunction—difficulties of a most serious kind, both technical and practical, may be found to arise; and one thing that some practitioners may require to be told is that "it seems perfectly certain that without the express consent of the employer the architect has no authority whatever materially to alter the contract and work as laid down in the drawings and specification," such a warning turning of course very much upon the cautious introduction of the word "materially," but still leaving the architect at the mercy of forensic rhetoric and its formulæ. The case which seems to establish this principle (dated 1841) even goes so far as to deprive the builder of his right to recover payment from the employer for extra work admittedly executed, and presumably gives him a right to recover from the architect if he has ordered the deviation without the legally recognisable authority. Later cases carry the application of the principle, no less inconveniently, into the question of taking out quantities. Only a very few years ago a quantity surveyor sued a well-known practical architect and his employer jointly—having received instructions from both—for payment of his charges for preparing bills of quantities. The lowest tender had amounted to more than £10,000, whereupon the design (which means in law the working plans and specification) had been cut down in the usual way, and the building as thus reduced duly executed. In these circumstances a certain considerable sum had been paid to the quantity surveyor, but he demanded more. The employer was allowed to allege (surely absurdly enough) "that he instructed the plaintiff that he was not prepared to spend more than £5,000"; and this, therefore, had to be gravely denied; but what concerns our present inquiry more is the equally amusing decision which was arrived at by a special jury. In finding for the surveyor for an amount somewhat less than his claim, they awarded that about two-thirds of it should be paid by the employer and one-third by the architect. This verdict was presumably based upon the conclusion that the architect as an agent had somehow exceeded his legal authority; but it is still difficult to understand. Another case is quoted, however, in which the surveyor sued the architect alone, who, failing to show his client to be liable, had to pay for the quantities himself, although they were actually used for obtaining tenders. It is pretty well known that an architect has always to be exceedingly careful in ordering materials or other goods for the building or the builder; but it is also plain that he ought not to allow himself in any other respect to indulge indiscreetly in that spirit of friendly agency which may lead to his overstepping the strictly legal limits of "express authority"; indeed, in this respect, as in so many others, he should remember that it is easy, as it is certainly judicious, to keep the client fully informed by letter of all that is being done.

How far an architect may find himself liable for the substantiality of his "design" structurally is a question that ought not to be overlooked in these days of so much jerry-building, close tendering, sub-contracting, limited liability, and other indulgences of the speculative instinct. In 1891 the widow of a workman, who had been killed through the fall of some flimsy houses while in course of erection, sued the owner, the builder, and the architect all together for damages. "It was shown that the fall of the building was due to a wall being too slight to bear the strain upon it." The jury, at the suggestion of the Judge, stopped the case as against the owner, but gave a verdict for £500 against the builder and the architect jointly. It ought to be borne in mind that, when real culpability can be proved, a jury has little mercy upon a pretender to skill, who is incompetent, or careless, or even overadventurous; and when human life is placed in jeopardy in such a complex and wholly expert undertaking as building, whether in respect of structural stability or sanitary safety, there are no limits to the risk of "liability for tort" that may unexpectedly arise.

But whether it be such responsibilities as these towards persons outside, or the equally mysterious dangers of misadventure with the employer, there can be no doubt that the possibilities of ruinous pecuniary claims and no less ruinous costs of litigation ought to be more seriously considered by architects than they generally are. For example, let the reader try to imagine what might be, under favourable conditions for the development of some microbe of mischief, the effect of such a maxim as this:—"It may be well to mention" (as if by way of an incidental pleasantry) "that where a contractor is in doubt as to whether the architect or the employer is liable, or whether they are jointly liable, he is entitled under the Supreme Court Rules, Order XVI., to join them" (not at all as a joke) "as defendants in the action." Suppose a case. A fine young architect, having pretty well exhausted his vitality in winning at last by competition a title to get a poor shilling in the pound (not without laboriously earning it), finds his committee severe and his contractor stalwart, and a quarrel consequently on foot which he is doing his utmost to reconcile, and all in vain. Why should he come to be unexpectedly served with a writ, for perhaps ten times his profits, and on some unintelligible technical issue of abstract law, with only this incomprehensible apology to console him—that the contractor being in legal doubt about one person is thereby "entitled" to proceed at haphazard against another? Nay more, if, being of a fine æsthetic spirit, he proceeds in a paroxysm of virtue to put the unsavoury process-server gently forth from his office, why should the lawyers be so mightily indignant about the insulted majesty of the law?

Be all this, however, as it may, let us look next at the question, more familiar by name, but still too little understood in essence, of architectural "negligence." Perhaps it may be said broadly that, although it has been suggested on the Bench itself that the client is very unwise who falls out with his architect, there are nevertheless not a few architects who have been a good deal surprised to learn, when such a misadventure has happened to occur in their own experience, how all-embracing the net of legal negligence may become, and how difficult it is for an architect to escape from its meshes when it is cleverly handled, especially before a jury. He is, as our authors blandly tell us, "the employer's servant, and in discharging his duties he must display a reasonable degree of skill and care," and "if he fail to display" (to make clearly manifest) "that reasonable skill and care, and damage in consequence is suffered by his employer, he will be responsible for that damage"—no matter what it may be assessed at. So that his five per cent. actually covers at any rate what may possibly take the form of a very comprehensive insurance or indemnity. By way of an effort to define in some degree what is actually meant by the term "negligence" in law, we are further told that "whenever the architect fails in the proper discharge of his duty" (of course, in the opinion of a jury), "he will be liable to his employer, unless he can show" (even by something more than proving a negative) "that the failure has been due to causes outside or beyond his control; he will be liable for ignorance or want of skill," and so on; and judgments are quoted to the effect that it is not enough to show that he had "acted *bonâ fide* and to the best of his skill and judgment," for he is "bound to conduct himself in a skilful manner," which is a very different thing; so that even *caveat emptor* does not seem to come in when the buyer is buying an architect's skill. However, we are glad to be informed, and without any appearance of irony, that although "want of skill, or negligence, may be shown in a number of ways," "fortunately for the honour and credit of the professions under discussion" (architects and engineers), "there are comparatively few cases in which negligence has been established against their members"—one good reason that we may suggest for this consolatory fact being that it is not easy (although not quite impossible) to get professional brethren, even for a liberal fee, to give *ex parte* evidence in public in support of a shabby case.

The vexed question of an architect's liability, or even moral responsibility, for excess of cost over estimate, is more generously dealt with in this volume than perhaps in strict law it might have been. To specialists of experience, whether architects, surveyors, or builders, it certainly seems that even Judges on the Bench are sometimes too readily disposed to misunderstand what is the practical issue. The rough legal doctrine that an official estimate must be, if anything at all, a sort of contract of warranty, is seen by all experts to be quite mistaken. A statement of price as a contractor's tender is a plain commercial offer, even when speculative; but a statement of valuation by an architect, as an estimate of the cost of executing his design, is only a crude opinion—for what it may be worth in the particular circumstances; and it is really worth very little, or nothing, unless it has been formally and conclusively arrived at by the elaborated calculations of the quantity-surveyor. To put the case very plainly, what we all know is that such a surveyor requires to be paid for his laborious work by a not inconsiderable percentage, and that, as an employer will more than hesitate to incur that expense, he therefore has to content himself with mere approximate guess-work, which the architect, in fact, has to supply gratuitously. It is no reflection upon the good sense of either architect or employer if it be said that up to this point both are disposed, dealing with mere sketches of design, to take an economical view of everything; and that when those sketches are being fully developed into working plans and specification, both are inclined to accept more liberal views; so that, by the time the quantity-surveyor has actually brought matters into complete form, the estimate is naturally enlarged. Not only so, but the same process of automatic improvement is repeated as the building is being executed. Our authors have succeeded in grasping this point, and they frankly observe that as a matter of fact "the client is more frequently to blame for this than his professional adviser." But the height of the absurdity of the situation is that which is reached when a client pleads having "instructed" his architect at the beginning to limit the outlay to a specified sum, so that this instruction ought to be regarded at the end as the basis of a contract between them. Some persons have seemed inclined to argue that such an allegation is even sufficient to relieve them from the obligation to pay the builder's bill; but this is obviously more than the most enterprising counsel would venture to ask a jury to accept. Still, the unwelcome fact remains that, if the doctrine of an architect's commercial responsibility for estimate *versus* cost is allowed to have any weight at all (except, of course, in cases of fraud), it is difficult to see where its effect may end. There is one respect, however, in which an architect may legitimately enough fall into a snare, namely, when he supplies the quantities for his own works and permits himself or his assistant to act "negligently" in the more colloquial sense of the term. There is also another danger that may be mentioned. When in the builder's contract the usual provision is introduced that the architect is to "value" all extras and omissions, although in his capacity of "valuer" he may escape from interference in one direction on the part of the contractor, he may still as "architect" be called to account in the other direction by his client. This, however, may be said to be only one of the many anomalies which arise out of the more subtle than sound distinction which the law makes between a "valuation" and "an arbitration," no surveyor being able to explain the difference, except that the one is adjudication arbitrary and the other adjudication irresponsible, which is which being immaterial.

"When the architect is guilty of fraudulent collusion with the builder, his acts do not bind his employer. Fraud, as it is said, vitiates everything." The old-fashioned custom of the contractor allowing to the architect a supplementary private commission on the work, ostensibly either for some special trouble taken, or for certifying the instalments of payment, or for the special supply of copies of drawings, or possibly on some other such pretext, it is to be hoped has now completely died out; but, at any rate, it has to be distinctly understood that the element of privacy constitutes all such underhand transactions fraud. In like manner in the case of any person acting as supervising architect—and therefore as fiduciary agent—the acceptance of a commission or allowance on goods supplied for his building, even when, in personally ordering the goods, he makes himself legally liable for payment, is a fraud, except on the one condition that the client is a party to the transaction, or at least is duly informed of it and sanctions it, as he frequently may be quite willing to do. Here, again, it is the underhand element that creates the difference between the lawful and the unlawful. Moreover, it ought to be borne in mind that money received by the agent underhand is in law received by him on behalf of his principal; but in any case the obvious risk of an architect being held to have taken a bribe, however indirectly, or even in a certain sense innocently, is always a serious consideration, if only in view of the grave possibilities of a complicated commercial derangement arising, or, what is worse, an inextricable entanglement of character, "fraud" being such a very ugly word.

Having regard to many considerations more or less conspicuous, it is advised that "a written contract should always be insisted on by engineers and architects" (the treatise, by the way, is written for the two professions taken together, and, far from any confusion being thus created, it may be acknowledged that the combination of interests operates advantageously for both). But, as regards this particular question of a written contract, it will in practice be plain that, although the magnitude of engineering transactions, which are usually entered into also with great corporations, furnishes a reason for the most scrupulous formality, the very different conditions of the generality of architectural employment for private clients, and especially considering the more familiar confidential relations of the parties, are quite sufficient to account for the circumstance that, except when dealing with public bodies who have by law to contract under seal, an architect never stands upon such punctilio; indeed, it is not too much to say that clients, as a rule, would certainly take offence if "a written contract were insisted upon" or even suggested. However, it is very properly pointed out that, by the ancient, but still operative, law known as the Statute of Frauds, "no action shall be brought upon any agreement which is not to be performed in the space of one year from the making thereof, unless the agreement or some memorandum or note thereof shall be in writing, and signed by the party to be charged therewith." No discussion of this matter of pure law is necessary here; but it may suffice to say that the usual incidental correspondence between architect and client is generally to all intents and purposes quite enough to rely upon; so that ordinary cases require only ordinary engagements.

The remuneration of an architect is, of course, a subject of controversy in many instances, and in many forms, and it is well understood that there is no legalised scale of allowances by which his charges can be officially taxed. In the absence, therefore, of a specific agreement for the occasion, the law will give him "reasonable remuneration," and so leave the question to what is called the "custom" of the profession. The Schedule of Charges which has been published by the Royal Institute of British Architects for nearly forty years past is of the utmost service here, although it has no absolute authority in law. The present writer is probably the sole survivor of the committee which, under the chairmanship of the experienced and astute Sir William Tite, drew up the original document; and he does not forget the pains that were taken by the chairman to indicate plainly that it was not a series of rules, but a statement of ascertained custom. But a good many years afterwards, when another committee had to revise the details, it unfortunately happened that this distinction was somehow overlooked, and the designation "Rules" came inadvertently to be used. The result was for a time unfortunate; but matters have been put right since, and it is enough to say now that the Schedule has long been fully recognised as properly representing the "custom" at common law. It has to be remembered, however, that its object is simply to allow the typical architect "reasonable remuneration" for typical services, and that questions of increase or diminution to suit exceptional cases are still left open for discussion, subject to the application of the Schedule as an accepted basis, and the ultimate appeal being, of course, to the opinion of a Court of Law, on evidence to be given by professional witnesses, or otherwise to the decision of an arbitrator on his own judgment as an expert.

The unpleasant possibility of an architect being summarily dismissed is not overlooked in our treatise, and it is laid down as recently established case-law that "a conviction of any act of dishonesty on his part, though not directly affecting his employer, will constitute a sufficient ground for his instant dismissal." Presumably this implies no more than an assertion of the principle that any man who is proved to be unfit for fiduciary agency ought to cease to be a fiduciary agent, so delicate a subject is good faith. But obviously such an idea may be carried too far. Again, as regards remuneration for past service in cases of dismissal, there seem to be some complex questions of law which need not be considered here. The same may be said of the case of the decease of an architect, when it is at least sufficiently clear that "the contract of employment is put an end to by his death, or his incapacity, mental or physical, to carry out the contract within a reasonable time"; whereupon "his rights and obligations under the contract do not pass to his representatives"—so emphatically so, indeed, that when the agreement is to perform the service for a lump sum, and the architect dies before its full completion, his representatives cannot recover any part of his charges; although on the other hand, if payment was to be made to him by instalments, they can recover any instalment actually due at the time of his death.

On the question what is the "reasonable skill" which an architect is held to have contracted to provide and use for his client's benefit, we are told that the answer can only be given "on a consideration of the circumstances of each case as it arises"; and it is apparently suggested that the standard of individual competency depends upon what the particular practitioner has "held himself out" to be qualified to do. But, as we are here referred to decisions dated 1767 and 1807, it may perhaps be doubtful how far this view of the matter can be reconciled with the more modern doctrine that the mere "acceptance" of a "retainer" implies a warranty; in other words, that "a person who undertakes the duties of a skilled occupation must have reasonable skill." And, by the bye, if it should occur to any reader of more artistic impulses to inquire how far all these alarming points of law might possibly be brought to bear upon some question of architectural taste—the detail of the Queen Anne style, for instance—it may be satisfactory to know that the lawyers happily appear to leave everything of that kind entirely out of account, as if it were of no moment at all; so that there is no fear for the present of Mr. Justice Hawkins and a jury of respectable ratepayers being called upon to weigh a mass of conflicting æsthetic evidence in order to decide whether a defendant architect has or has not committed the elastic and expensive offence of negligence in respect of the design of an elevation which half the members of the tribunal have been looking at upside down!

"Reasonable care" looks very much like another matter of difficulty, running indeed in harness with reasonable skill, but on more intelligible principles. Going back to the year 1826, we find that a civil engineer, employed for the construction of a bridge, supplied an estimate of cost, and took upon trust a certain record of borings of the soil which had been conducted by a previous official of the employing committee. These, however, proved to be incorrect, and the cost was said to be considerably augmented in consequence; whereupon the committee refused to pay the engineer his charges, and they were supported by the Court in so doing on the ground of negligence. Whether an expert arbitrator, or even a jury, would take the same severe view of any such case now may be doubted, for there are so many more risks of misadventure in these days amongst the might-have-beens of engineering, and of architecture too.

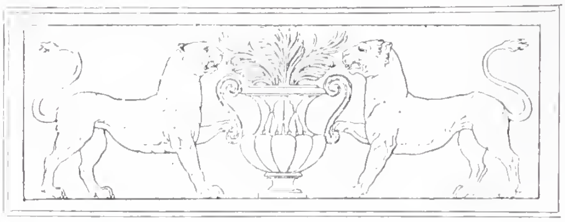
Upon the vexed question of the ownership of the drawings prepared by the architect, our authors fully approve the law as it has been declared and held to be settled by the Courts, that the drawings belong to the employer; but amongst some other considerations, they raise the point whether there is any guarantee, either to employer or to builder, of the accuracy of these drawings. To avoid commercial disputes which may arise, they suggest the introduction of "a non-warranty clause" in the specification; but what would be the impression thereby produced on both the contractor and the employer it is easy and yet not easy to say. All working drawings ought to be substantially or "reasonably" accurate, at any rate.

Although an architect is held responsible to his client for all sorts of negligence in the full sense of the term, it is to be understood that he has no corresponding responsibility to the contractor. We have it plainly put on this simple ground: the relation of (so to speak) master and servant which exists between him and the employer renders him bound as by direct contract to supply a reasonable amount of skill and a reasonable amount of care, and failing this he is liable to a claim for any damage sustained by the client. "But no such relation of master and servant exists between him and the contractor, and so he is under no obligation, as far as the contractor is concerned, or any one claiming through the contractor, to show either care or skill in the discharge of his duties"; so that he can only be held responsible to the contractor for doing him damage through "wilful misconduct or misrepresentation amounting to fraud." Said Lord Esher in 1893 in a builder's action for damages against an architect—who, be it observed, admitted the alleged negligence—"The question of liability for negligence cannot arise at all until it is established that the man who has been negligent owed some duty to the person who seeks to make him liable for his negligence. In the absence of contract an action for negligence cannot be maintained where there is no fraud." As it happened that an arbitrator had previously decided that the admitted negligence was not fraudulent, it was therefore held that the architect was not liable; but whether the contractor received substantial justice seems to be a question left untouched. Another point, apparently decided on the same ground, is that for any "negligence" in the granting of certificates for the builder's payment it is to the employer alone that the architect is liable. But surely there must be some way out of these technical difficulties; and, at any rate, it may be remarked that there is but a narrow division sometimes between palpable injustice and technical fraud. With reference to certificates, however, it has to be borne in mind that the conduct of an architect acting under the usual conditions of contract seems amenable to no discipline: he is acting as a "valuer" and not as an "arbitrator," and is pretty much at liberty to "value" as he pleases, and to refuse explanation to the contractor, or even co-operation with him; for, as regards the final certificate itself, "provided there is no fraud in the withholding of the certificate, and no undue influence on the part of the employer to induce the withholding of the certificate, the want of the certificate is a complete bar to the contractor's right to recover. At the same time, neither can the employer in any way "go behind" this certificate when once issued, unless he can prove fraud.

It is a satisfaction to the admirer of fair play to find towards the end of our volume that in two or three chapters "it is proposed to treat of contracts for works from the point of view of the contractor"; and the first piece of advice set forth touches the importance—obviously to both parties alike—of having every building contract put into writing, and made to express as definitely and fully as possible the precise particulars of the work to be done, and the amount and mode of payment. "If no consideration be agreed upon, the law will, once the work is done, presume that the parties intended that it should be paid for at a reasonable rate; but, until there has been part performance, the law will not enforce it, or give damages for its breach by either party." This does not seem very plain, but there may be some hidden mischief in it, and an illustration of its operation is given in a case where the quantities took the place of the usual specification. The builder was required to carry the work somewhat farther than the bill of quantities went, in order to comply with the plans; he refused; and he was held to be right. Again, we have it pointed out that "in the absence of a condition requiring the approval by some person of the work before payment," shortcomings in respect of its quality, or its compliance with the plans, or the like, will not justify refusal to pay; and the employer's remedy is an action for damages. Thus in the case of a warming apparatus which did not answer, the Judge directed the jury, if they thought it could be rectified without too much difficulty, simply to deduct an allowance for this amendment. Another decision runs, not very clearly, thus:—"The rule is that if the contract be not faithfully performed the contractor shall be entitled to recover only the value of the work and materials supplied." Still another view of the matter is that the contractor may amend the work so long as the time for completion has not expired; and "it is always possible for the employer to set off damages directly arising from the improper performance of the contract"; he can also counterclaim for "other damages of a collateral nature"; or he may pay the contract price in full and then sue for all damages.

When there is a condition in the contract that the work shall be in accordance with the plans and specification, the contractor must adhere thereto, and primarily he cannot recover for deviations not duly ordered; and the architect is not entitled merely as architect to order or permit any deviation not authorised by the employer. In the absence of conditions as to the quality of materials, the obligation is to supply them of "a reasonably good quality," and the same with the quality of workmanship. Then, as regards extras, when it is agreed that they are to be valued by the architect (or his surveyor) this is held to imply that the valuer is also to determine what is extra (or omission), and what is not, "his certificate awarding a certain amount to be due for extras" being "conclusive"—presumably because he is acting in the capacity of a "valuer." Again, if orders in writing for all extras are stipulated for, "where this is clearly expressed the written order is a condition precedent to payment." Fortunately for the contractors, this punctilio is not severely insisted upon; although when dealing with a corporation the question may arise whether, as a corporation, such a body has the legal power as well as the personal will to dispense with it. In all cases of hardship, however, "the Court will endeavour to ascertain whether there has been a waiver of the condition," and also, "if it can be shown that the extra works claimed for are entirely outside the contract, the want of the written order will not bar the contractor's claim." Again, if the final certificate include extras that are within the contract, the question as to written orders will not be allowed to be raised, except fraud be alleged; but as to extras altogether *dehors* the contract, the certificate is not conclusive.

Of course, there are a great many other interesting points of "a little law" which might be alluded to in such a notice as the present; but it obviously goes without saying that the book itself is filled with such matter; and the utmost that the authors—or rather compilers—can desire to claim must be that, as the net result of their labours, such points are placed intelligently and correctly before the reader. So, also, all that the writer of this notice can with any reason presume to expect is that he has met with some success in his endeavour to provoke amongst his brethren an interest in a subject of study which, within professional limits, must manifestly be regarded by the architect, as a practical man of business, to be of the highest importance. It is all very well to say when trouble threatens go betimes to your solicitor; but it is surely better if, by taking pains, one can keep out of trouble.



THE EDUCATIONAL TRAINING OF ARCHITECTS.

By Leopold Eidlitz.

A Rejoinder.*

> O Heaven! And are these things for ever impossible then? Not a whit!
>
> To-morrow morning they might all begin to be and go on through blessed centuries realising themselves, if it were not that—alas, if it were not that we are most of us insincere persons, sham talking machines, and hollow, windy dilettanti. Which it is *not* impossible that we should cease to be, I hope.—*Carlyle.*

THE motives governing professional discussions on science and art in architecture are apt to be mainly commercial, which means that the well-being and success of architecture are subordinated to the supposed immediate interest of the architect as a genus, and more frequently as an individual.

The methods employed do not refer to the principles involved, but are purely political, in that modern sense of the word which means the pursuit of temporary expedients. The results are disastrous to the profession. In controversies with branches of Government which control public monuments, the architect is invariably put in the wrong by trained politicians, who successfully appeal to the judgment of the masses on grounds of economy, or by a playful indifference to architecture as an art, and by arraigning the works of architects for their shortcomings.

The public has therefore lost faith in the authority of the architect, in the sense in which it respects that of science, law, theology, medicine, or the dicta of Courts, even the opinions of competent mechanics and artisans in their own specialties. The profession, made painfully aware of this fact by salient criticism, proceeds from time to time to enumerate for the ear of the public the scientific attainments involved in the construction of monuments, and the artistic skill in modelling and decorating their masses. Of the latter, much stress is laid upon taste and genius as the motive force which enables the architect to cope with this problem; but as taste is a faculty possessed by all men, and as frequent appeals to public taste place the profession in a measurably dependent position, the assertion is added that the taste of the architect is especially cultivated by the reading of art history.

This is the last tangible position taken to explain to trained logical minds that there is an actual scientific and artistic foundation to the otherwise patently dilettante talk of taste and genius.

Let me admit broadly that the history of any science or art is an essential appendix to the study of it, provided it be accompanied by a philosophic scheme of education, comprising all the requisite knowledge now attainable. Alone, without connection with such a scheme of education, the reading of the history of architecture may also become valuable to the extent in which it is treated analytically; but when not so treated, it becomes misleading.

When the student sees in history nothing more than a collection of pictures of monuments of various dates, or when, what is worse, he absorbs erroneous criticisms of the author (as I have abundantly shown elsewhere, in the case of Fergusson, the author most frequently consulted by English readers of this day), and when mere reading of history is imagined by professors to be a system of education in architecture, it becomes of questionable benefit to the student who has not as yet mastered the rudiments of architecture or building.

The truth of all this may be sufficiently proven from the dicta of the professional architects who discussed my Paper of the 1st March.

Mr. William Woodward says [p. 219]:—

> It does not interfere with legitimate architecture that he may employ such a stanchion, and may enclose it with terra-cotta or stone, and may therefore reduce the area of support. So long as that column is in proportion, it is, I contend, quite a defensible design. I have a case in which I have done it myself, and in this way. I wanted to have a gauged red-brick column. The diameter of that column as designed would not have been sufficient unless a cast-iron stanchion had been introduced into that column; that cast-iron stanchion has been introduced; it has been entirely covered up, and I have been enabled to get my red-brick column, which otherwise could not have been got; . . . and so long as the work is in proportion, I maintain that its employment in that form is a thoroughly defensible and excellent form of design.

Observe the term "an excellent form of design." To this gentleman the history of architecture is nothing but a collection of designs, not of buildings, and he imagines proportion as possible to exist outside *of the mechanical relation of matter*, which relation he admits to have been defective in the case cited. He felt warranted in resorting to this expedient without regard to artistic treatment, which would demand a frank avowal of the metallic stanchion, or, at least, a visible presentation of it in the form of the column; but Mr. Woodward claims to be of sufficient authority, and gives no mechanical or æsthetic reason for it beyond the unproved assertion that, "so long as the work is in proportion," its employment, &c., &c.

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* Mr. Eidlitz's Paper, which was read before the Institute on the 1st March 1897, is printed, with the discussion thereon, in No. 9 of the present volume, pp. 213–222.

It would be of interest to learn where, in what book, Mr. Woodward found the authority for the size of his brick column. I never met with such a book. I fear that he refers to the proportions of columns as laid down in *Vitruvius*, or perhaps deduced from Stuart and Revett, or some more recent measurements of the structural parts of Greek temples. He seems quite to overlook the fact that Greek architects in using these proportions were governed by mechanical reasoning, derived from practical experience. Furthermore, he has evidently omitted to observe that these proportions are necessarily modified by the nature of the load, and the resisting capacity of the material. Greek temples were built of marble; his column was built of brick. Did he take into consideration that a column resists pressure, not in proportion to its diameter, but to the square of the diameter? I say I fear that Mr. Woodward overlooked all this from the fact that in the discussion of a Paper on the education of architects, he failed to state the rationale involving these points, which could have supported his assertions.

Mr. John Slater seems to be aware of the æsthetic formula, "That structural parts of monuments must be *apparently* proportioned to the weight they carry." He says [p. 218]:—

> I hold most strongly that the supports of a building ought not only to be actually, but also apparently [meaning visibly] proportional to the weights they have to carry, or we cannot derive any satisfaction from the aspect of the building. I am afraid, however, that if we were to adopt as the text-book of our architectual studies, or our architectural education, the mere mechanical formula of proportion of weight to strains, we should not clothe the dead bones of building with any architectural life at all.

I can only say to Mr. Slater, "Do not be afraid." Nature has attempted the process of clothing the bones of her animal and vegetable creations with great success, and with the universal approval of numberless generations of wise men, including, I trust, Mr. Slater himself, in accordance with the formula of strains and weights, statics and dynamics. I know this to be true, because these formulæ have been deduced from the phenomena observed in nature; and as it is universally conceded that art is the human effort at creation in imitation of nature, the neglect of these formulæ denotes misconception of the nature of art.

I am duly grateful to Mr. H. Heathcote Statham [p. 218] for his politeness in moving a vote of thanks for my Paper, and for his favourable notice of other of my writings, with which he seems to be conversant. I also wish to convey to him my cordial condolence on the melancholy aroused by the apprehension that I recommended the undue pursuit of a new style of architecture, which he might have readily escaped by reading, or listening to the reading of, my Paper. He deems the "new style mania" a fallacy; and so do I, as long as the effort is premeditated and is supposed to be attained by the straining of the architectural imagination after new forms, or after new combinations of old forms. The proper development of architectural or any other art forms is only possible when it conforms to the laws of nature.

I am now reminded of the great help it would be to our profession if the noun architect and all its derivatives could be abandoned in our art discussions. When the Mediæval master-mason was translated into the architect, which practically means the same thing, the idea got abroad, and still exists, that the Greek term now means a person not connected with the process of building, but endowed with the faculty of making buildings beautiful to look at.

Of the process of beautifying structures, of the nature of beauty, we get no account in the Ecole des Beaux-Arts, in polytechnic schools or universities. Of the differences between the beauty of a church, a palace, a court-house, a library, and a cottage, in the sense in which we distinguish between the beauty of a humming-bird, an eagle, a bull, a horse, a lion or a tiger, or again the beauty of a spinning or weaving machine, a steam engine, a telescope, a theodolite, or a trip-hammer, there is no definition in any educational institution. When you ask for information of the professional architect—Mr. Statham, for instance—you are told that it cannot be explained by any process of definition, but is illustrated by the genius of the architect since 1300 A.D. with what information he can gather from the works of the master-mason prior to 1300 A.D. Hence, read architectural history. Shall I find the why and wherefore in architectural history? No. That you have nothing to do with. That is the special province of the archæologist. See Professor Aitchison's excellent paper on St. Sophia: he digs deep into the roots of why and wherefore. There you will also find a lucid appendix by Mr. E. W. Tarn, wherein he gives mathematical, incontrovertible proof that the dome of St. Sophia is in a state of equilibrium. The ordinary practitioner would be apt to say that we all know this from the fact that it has not fallen down during these thirteen hundred years, without going into the tiresome process of his mathematics.

"What you need to know," Mr. Statham might retort, "is simply the fact that St. Sophia is beautiful; and when you are called upon to build a St. Sophia, or any other church, or a railway-station, you must make it as nearly as beautiful as St. Sophia as you can."

Now, the genius theory has been pooh-poohed on several occasions by those who know, although the general public accepts it with its mouth open, as much as to say, "We hardly know what to make of it, but there must be something in it."

Most architects talk about it, but for a discussion at the R.I.B.A., there is really nothing more solid to fall back upon than history, time-honoured tradition, and the like. But here comes an American from America, a man without traditions or proper respect for antiquity, and suggests that, after all perhaps, mere recital of historical facts and illustration of historical buildings may prove indigestible mental food to the unsophisticated young student, unless it be accompanied with a mechanical and æsthetic analysis. If you tell your student to follow this historical architure as a whole, or rather to follow one part of it at a time in his own work, he might answer: "I observe in this history great steps of progress in methods of construction, treatment of material, development of ideas, and their poetic conception. I will accept the history as a foundation, a sort of ground-work for future progress. I will begin where it ends, at 1300 A.D."

But the practitioners and professors might tell him: "This is rank heresy. You see this history is wisely divided into books and chapters. Any one of these books contains a history of a period and of a style complete within itself. Follow whichever you please, and you will become a great architect. But do not argue; do not analyse; do not talk of progress, of the relation between the mechanical development of masses and their decoration, and the like."

I say, when the American from America talks thus in the citadel of learning, no wonder Mr. Statham is indignant, though as host of the occasion his politeness curbs his indignation. He admits that his guest may be right philosophically, but insists that practically he is wrong. And this is strange, for usually Americans are practically right and philosophically wrong.

It would be impossible, says Mr. Statham, to prevent architects from working in styles. As soon as people have any knowledge of these, the human mind is so constructed that they (the architects) must be affected by it. They cannot help it.

> If we could catch a generation of architectural students, take possession of them as soon as they are born, and keep them out of sight of any buildings, then send them to a desert island, and keep them away from a knowledge of any books or history, and tell them to construct buildings to suit their purpose in the best way they can, I suppose they might then evolve something new! But we are not in the position of people before the ages of printing [p. 218 *ante*].

To sum up the above, it amounts to this:—The authors of the cathedrals evolved them spontaneously, not because they understood methods of evolution of architectural monuments in general, but because they *did not know* how other monuments, such as pyramids, temples, theatres, basilicas, &c., had been evolved by prior authors of monuments. In fact, to the mind of Mr. Statham, evidently, there has at no time been an intelligent process of reasoning on the creation of architectural monuments, but merely a spontaneous inspiration which culminated in the cathedrals.

It seems to follow that but for the invention of the printing press, engraving, photography, and the facilities of travel made possible by the steam engine, the architects of to-day would be creating monuments as far superior to the cathedrals as the cathedrals are to the pyramids.

An intelligent analysis of antique and Mediæval monuments, such as may be found in several historical and archæological works, shows a continual progress in art development, resulting purely from progressing methods of construction and treatment of material, the conventionalising of natural organic forms to fit them for structural decoration, and a rigid adaptation of these decorative features to the organisms of construction, with a view to emphasize their expression. This progress denotes not ignorance of the past acquisitions of architecture, but a continuous mental effort to improve and add to them. It is possibly true that Vitruvius never visited Greece, but the most cursory glance at Roman monuments shows their Greek elements. The Romans changed forms to adapt them to Roman uses merely, rather than to progress in the art of architecture—hence much of their failure. Mr. Statham seems to think that the want of photographs of Greek temples, and of a convenient railroad to Athens, implies ignorance of Greek architecture, in spite of the internal evidence of Roman monuments to the contrary. This proves the inefficiency of the present system of teaching the art of building with expression by the mere reading of architectural history, for the sufficient reasons:

(*a*) That architectural history is not supplemented or preceded by instruction in the mathematical reasoning which governs the relation of matter in an architectural organism when created by man in imitation of nature. Instruction in the science of mechanics (the sole guide to a proper relation of masses) should take into account the mechanical function of these masses, and the resistance to external force of the material of which they are composed.

(*b*) That the arithmetical relations of structural parts (as laid down by various authors) of temples, churches, and other structures, are nothing more than surveys of individual monuments, and cannot be applied in that form to structures of different materials and magnitudes, without reference to the laws of mechanics.

(*c*) That while relations of masses in antique and Mediæval monuments are based on the mechanical knowledge of the times in which they are erected, that knowledge was entirely empirical, and must be reconsidered in the light of the positive and accurate knowledge of our own times.

(*d*) That methods of moulding, decorating, and colouring structural masses are the means of accentuating these structural elements in their mechanical functions. To elucidate this subject with a reference to historical monuments exceeds the scope of this Paper, and I can only refer to chapter xxii. page 316, of the *Nature and Function of Art*, where I have cursorily touched upon the principles involved.

(*e*) Every science and art has its history. The main object of all these histories, as taught in educational institutions, is to collect in chronological order the development and progress of the past (sometimes also its retrogression), with the sole view that the student may judiciously use the knowledge acquired up to date *in its totality* in the further pursuit of the science or art he may select as a field for future action.

To add to past experience by present action, to group and to deduce general laws from isolated historical facts, and to extend recognised laws over recent experience, is the aim and pride of every student. No, not every student; the student of architecture under the present system of instruction is a notable exception. He is taught, or induced to believe, that architectural forms are nothing more than a fashion of the time in which they appear in history, complete within themselves, and entirely unrelated to any fundamental system of either science or art, and that, whatever mental motive there was for changing them now, it has no potency.

(*f*) Under these conditions, progress in architecture becomes impossible. Decadence sets in, and has been prevalent for six hundred years. Architects have lost the meaning of functional members of structures. Professor Hosking, an eminent British authority, speaking of buttresses and cornices, says, "that they were (once upon a time) abutments and wall coverings cannot be doubted, but now their function in architecture is to throw a shadow over uninteresting surfaces of compositions." He has in mind a drawing and not a building. See chapter iv. p. 51, *Nature and Function of Art*.

Mr. Woodward thinks a pillar must be so many diameters high, whether built of marble or brick, whether it sustains the pediment of a portico or a three-storey house. Staircases, originally constructed of stone, have been imitated in wood, retaining much of their original form; and now stone staircases are built, supported upon wrought and cast iron frames, in imitation of those wooden stairs. Stone arches of enormous voussoirs, far too large for the loads they carry, have attenuated abutments. Imposts of doorways and other openings are made of wood; iron and copper cornices in imitation of the form of the Greek marble cornice are fastened with iron straps to the face of brick walls, &c. The meaning and purpose of structural elements are not considered, and the forms themselves, without reference to function or materials, are applied to constitute what architects call "an excellent form of design."

The idea of building is lost, and the design has become a feature to captivate unwary laymen.

(*g*) Unwise men cry out for a new style; wise men deplore the fact that with the great changes in fundamental ideas, with the progress possible by accurate knowledge of construction, and with the constant introduction of new materials, not only do architectural forms betray no progress in the art of architecture, but it is evident that the art forms of the past are misunderstood in modern attempts at pure imitation, and that the motives and principles which first called them into being are not now regarded as a logical system, a philosophy of building, and an art development of expression. When we ask why it is that architecture alone of all arts and sciences is taught without a textbook which explains the mathematical nature of construction and the methods of accentuating construction by decoration, by means of conventionalised natural forms distributed and arranged again with strict reference to mechanical strains, we are told that "it might be right from a philosophical point of view, but it cannot be done." What cannot be done? That we should endeavour to carry out architecture as people carried it out before the fourteenth century, without reference to precedent.

Now Mr. Statham has written a very interesting book on *Architecture for General Readers*. So I take the liberty of quoting from its preface such passages as show the drift of the author's mind in regard to architecture as an art:

> Architecture, he says (in the only point of view in which it is worth the regard of thoughtful people), is the art of erecting expressive and beautiful buildings. . . . A building can never be beautiful, architecturally speaking, unless it has expression. What do we mean by expression, the author asks. . . . The human figure is capable of expressing feeling by looks and actions. Expression in this sense a building cannot be said to have. It may reflect the emotion of those who designed it, or it may express facts of internal structure and arrangement.
>
> In a more restricted sense, a building may express constructive facts, its plan and arrangement, even its purpose. It ought to do this, unless the architecture is to be a mere ornamental screen for concealing prosaic facts.
>
> Then a design is dependent on structural conditions also, and if these are not observed, the building will not stand, and hence it is obvious that the architectural design must express these structural conditions; it must not appear to stand, or be constructed, in a way it would not stand (like modern shop fronts), and its whole exterior appearance ought to be in accordance with, and convey the idea of, the manner and principle on which it is constructed. The interiors must be shown as such externally by emphasis of treatment.

In Mr. Statham's book we find also an adumbrated notion that architecture is, like music, a metaphysical art. The parallel cannot be said to be defined beyond the broad statement that the analogy is very close, and that "there is in architecture, as in music, something which defies analysis, which appeals to our sense of delight we know not how or why, and probably do not want to know."

It is touching to notice how the author here takes the reader into his confidence while speculating earnestly, and yet not without vivacity, on the nature of art. There is no spirit of condescension "to the general reader" whom he desires to instruct, and yet it is well known that this general reader is ill prepared to receive instruction on this abstruse subject. And again, the author is doubtless right in selecting the general reader for an audience in preference to addressing the professional architect, who is not apt to be docile under instruction, or in the discussion of any statement which on the spur of the moment seems to him to be heterodox. I say it is touching to see the author taking the reader into his confidence while speculating upon the nature of architecture as a fine art, because the discussion of the subject, as far as I have quoted it, and indeed as far as I can discover it in reading the book, seems nothing more than speculation. It nowhere culminates in a final definition of architecture such as a professional architect may grasp and realise in practical professional work. And yet how near he comes to it, not in its entirety, but in its elements! How vividly he thinks of it, unfortunately not as a building, but as a design! The ground plan must be felt in the elevation, and so must methods of construction. As a whole, it is a species of music, imponderable, metaphysical. "We know not how and why, and probably do not want to know." Thus the author abandons the idea of connecting the material in building with the spiritual, which alone he considers to be the art effort. He ascribes it to the inspiration of genius. He says (and so say multitudes of professional architects, whom Mr. Wight of Chicago has dubbed "the conservative school"): "Let us try to imitate the geniuses of the past as displayed in their works. Let us read history, and trust to providence."

The devotees of natural science not very long ago underwent a similar mental process. Light, heat, electricity, remained inexplicable as phenomenal entities, other than as imponderable matter, until they were demonstrated to be not matter at all, but conditions of matter. It is even so with architecture, and with all art. We find in it something imponderable, and we attribute its existence, as Mr. Statham has it, to "the spontaneous eruption of genius," to "a metaphysical similarity with music," to "something, the how and why whereof we do not know." But then the author of *Architecture for General Readers* turns to the subjective effect of architecture with some degree of success. He says, as it were: I do not know how architectural monuments acquire the spiritual property of art, but I know how we are affected by this spiritual property. I do not know why it is so much like music, but I do know what is our feeling when we behold it. We find it beautiful and expressive. Yes, architecture is the art of erecting expressive and beautiful buildings.

Now, the translating of an objective condition into its subjective results does not amount to a definition.

Count Rumford did not content himself, in defining caloric, to say that matter combined with it feels hot to the touch, and when it is withdrawn it feels cold. He said: I have weighed matter hot and cold, and find no difference of weight. I have produced sensible heat by friction; hence caloric is not matter, but a condition of the motion of matter.

A definition of the beautiful and of expression will help us to realise the extent to which function (ground plan) and construction enter into the creation of a true work of architecture. The works of nature, we all admit, are beautiful and expressive. The degrees of beauty and expression realised by the observer vary with his capacity to observe. The ornithologist will explain to you how a sea-gull flies. He knows the nature of the mechanism required for the purpose. He has examined it anatomically, and analysed the tissue of its muscles chemically and under the microscope, and if he is poetically inclined, he will wind up his discourse with a description of the expressive form of the bird, and its grace of motion while flying around a steamer crossing the Atlantic. It is most beautiful indeed; beautiful to look at, he will tell you. If you are a wise and modest man, you will feel overwhelmed with the material facts revealed to you, and render your tribute to nature in admiring silence. If you are dilettante, you will observe complacently that you always thought it was a beautiful sight to see a bird cleave the air in its flight.

Thus a vague conception of the beautiful is the alpha, and an intelligent realisation of expressiveness in nature is the omega of one and the same impression. In nature form betrays function, and our ideas of beauty are proportionate to the degree of this expression as realised by the subject. It stands to reason, therefore, that the degree of beauty realised is both subjective and objective—in all cases, however, our appreciation of the beautiful in nature, as well as in art, is nothing more than the surprise at the art force displayed by the author of a work of art, or by nature, and amounts more or less to the degree to which we are familiar with the object in question; hence it is that objects of great beauty often fail to excite admiration in the ignorant.

To sum it all up, we must come to the conclusion that form, expressive of function, constitutes objective beauty, depending entirely upon the perfection and accuracy of expression attained.

Architectural monuments are works of human art in imitation of nature, not in imitation of forms existing in nature (for there are no such forms), but modelled, in their organism, in accordance with the laws of nature. The greater the accuracy in the application of these mechanical laws, the greater the expression of the organism, and the greater its beauty, if that is the ultimate object.

Statical relations of matter manifest themselves by local strains. When external strains are resisted by the internal atomic cohesion of matter, there ensues statical equilibrium, which in art forms is called repose—an essential element in producing satisfaction in the beholder.

The elements of expression, strains and space (dimension, mass), constitute structural form, the same as sound and time constitute music—hence their analogy. It is entirely physical, and not at all metaphysical, and we may know it. In music notes too high or too low produce discord. Frequent discords and irregularities in time result in a jumble unintelligible to the ear as an expression of an idea. At the present time, and for the last six hundred years, we work in styles. Mr. Statham tells us that we cannot help it. Let us see whether we can or not. In the first place, it is not strictly true that we work in styles. The Greeks expressed certain simple tangible physical ideas in architecture in the manner of simple tunes in music. These tunes are again simple architectural forms. These forms we imitate as forms, without looking at the Greek score for their elements. When we have to express somewhat complicated "motifs," more complicated than those of the Greeks, we do not write a new score in the style and on the principles upon which Greek architectural music is based; but we repeat Greek tunes over and over again under the childish notion that a simple tune repeated constitutes a symphony or an opera. Men like Schinkel and Stracke of Berlin realised the fallacy of this proceeding, and their partial success in Greek architecture is attributable to a fine ear for music and a lively musical organisation. That they did not ultimately and perfectly succeed is owing to the fact that they did not write their new score in the light of musical progress since the days of Pericles.

Gothic architecture is a symphony of many "motifs," physical and metaphysical. The latter have frightened the general public and the majority of architects into the arms of the Renaissance—the style of repeating the Greek tune over and over again in the same structure, no matter what its motif or capabilities of construction—and into the so-called styles and types arising from and related to it. By those architects who, in admiration of the Gothic symphony, still persisted in imitating its forms in spite of their spiritual expression, which is not in accord with the spirit of our own time, much good work has been done in England and Germany, but nowhere has the score been revised in the scientific sense possible now, which process alone would enable us to utilise the scientific and artistic basis of all monuments of the past, also the scientific and æsthetic elements as they exist at present, without retaining the expressions peculiar to past periods which are not in accord with the ideas of our own times.

It would lead me beyond the permissible limits of this Paper to bring before the mind of the reader the perverse and illogical process of conceiving a scheme for a proposed structure now commonly pursued by the professional architect. In the first place, he has in mind not a building, but the design for a building, which shall please the owner, a committee, or perhaps be exhibited for the approval of the public. In the next place, the order of the ground plan, methods of construction, selection of material, in fact, every expressive element or feature pertaining to colour and form, are pervaded by the dominating idea of style. Style, it must be remembered, as it exists in the brain of the author; not as a mechanical organism, but as a picture, the lights and shades of which are expected to produce effects judged of as desirable, or, under the circumstances attainable, pleasing to the author, the proprietor, the public; not eminently something which grows out of environment, whether it be modern or ancient.

It would lead me too far to enter upon the methods in detail which *should* be pursued in composing a structure. Let it suffice to say that next to a development of single cells and their connections which are to serve the ideal use of the person, or groups of persons, who occupy the structure, the laws of mechanics must be the sole guide in the development of its form.

A critical analysis of mechanical strains must be instituted, not only for the purpose of ascertaining whether all the parts of the proposed structure are sufficiently strong to sustain their load, but whether throughout the structure *the strains are* resisted *harmoniously*. I say harmoniously with intent to convey the idea that they are not to be resisted throughout the structure with equal facility (this would be monotony of expression), but with a vigour proportionate to the function of each part of the structure.

Many of our colleagues are doubtless confident that long practice enables them to detect want of harmony (insufficiency or excess of strength) by merely looking at the design for a building as a whole or in part.

Admitting that this is possible within the range of certain routine limits for structures which can hardly claim to be architectural monuments, such as shops, tenements, or small factories, the eye is a poor guide to a sound judgment in the matter of construction, proportion, or beauty in art.

Many practitioners consider themselves prodigious judges of the strength and beauty of structural forms. All they need to do is to look at them to find out whether they please them or not. If they would start the practice of accompanying original sketches with a strain sheet, they would find that in many cases their conception of forms is entirely at fault, and in almost all cases it needs considerable filing, with the further result that in the treatment of new problems the forms indicated by mathematical analysis will always prove more or less of a surprise to them.

Mr. Arthur Cates [pp. 220–22] does not approve the suggestion contained in my Paper, mainly on the ground that its aim seems to him to be the evolution of a "new style." In fact, it only treats upon evolution of any kind in contradistinction to the stagnation and deterioration which doubtless exist, and are purely the result of mistaken methods of education, or, to express it more accurately, of the education of architects in the way in which they at present practise their profession, and not in the way in which they should study their art.

Not to leave us in doubt upon this subject, he recommends a general education "on a level with the average of the architect's clients in knowledge of all ordinary topics of art and general history, and superior to them in his special and technical knowledge."

The answer to the salient question, "What this technical knowledge is to be," is somewhat obscure. He says:

> His success will depend on his application of the capabilities of the materials he used, and will be the greater as he may have been blessed with the divine inspiration of artistic genius, and have cultivated and developed it by earnest study, of which mechanical and constructive details would not have occupied the most important part.

This means, whatever the architect's success, it will not depend upon his technical knowledge. What will it depend upon? Divine inspiration, by the study of history, mastery of drawing, &c. What will it produce? Mr. Cates tells us:

> In the complex conditions of the practice of the day the architect must aim at acquiring the power to attain success in designing buildings which shall be convenient and appropriate in arrangement; shall be of stable construction; and shall be of suitable and beautiful design, both as regards masses, form, and detail.

I am of opinion that mass and form are mechanical relations of matter, and detail, like unto them, is expressive of those relations. Mr. Cates thinks not. How is this question to be decided? By history!

Six hundred years have passed since the building of the cathedrals, and to the history of these six hundred years I appeal for a decision of this pregnant question. What has divine inspiration done during this time in the development of masses, form, detail, architectural monuments, and decoration? Why, nothing! The very same bases, capitals, architraves, cornices, egg and dart mouldings, dentils and triglyphs, which were the Greek style properties of Roman architecture, are current to-day, rudely misapplied in many cases, often inappropriate to the material employed, and never the result of original analysis.

Ground plans are forced into preconceived forms without reference to the function of single cells. When the architect meets with a refractory iron beam or girder, does he treat it as a structural element to be enriched and decorated in accordance with the nature of the material? No. It is covered with some sort of boxing of wood, terracotta or plaster to represent a stone girder, which girder, were it really of stone, would break under its own weight. This girder is supported by wall brackets, which, were they real, would shear off under the load, and when the architect finds it all somewhat unsatisfactory, he paints it in imitation of oak, black walnut, or mahogany. Away with it! I can discover no divine inspiration there.

All this talk about general education enough to talk to clients, of temperance and honour, is, to say the least of it, a mere sham.

Engineers, lawyers, doctors, chemists, electricians, all have a fair general education, a knowledge of the history of their special science, but besides this, they one and all study the natural laws which govern the practice of their profession. No one relies upon divine inspiration for doing scientific or art work; it is not accepted as a basis of reasoning at this end of the nineteenth century. No matter what expression a monument conveys, the language in which it speaks is a relation of matter, just as in music the language is a relation of sounds. To those who do not understand either language, an approximate idea of its meaning is conveyed, which leaves a mental impression in the direction in which it is intended to convey thought of more or less intensity.

To the musical composer, and to the architect, who by his training is able to read his music in stone, this impression amounts to a knowledge as definite as that which enables the scholar to read a poem. When Mr. Cates hopelessly cries out: I cannot see how the future text-book on the theory, practice, and art of building will teach me the language of structural monuments, and how the facts which govern resistance to mechanical strain form the keynote of architectural composition, it proves but one thing beyond peradventure—that this text-book should be written at once, and that it is high time that its use be enforced in schools of architecture.

I cannot close this Paper without returning my cordial thanks to Professor Aitchison for his kind reception and courageous defence of my Paper (in the face of overwhelming opposition), purely in the interest of art.

New York, 31*st July*.

HOLYWELL PRIORY, SHOREDITCH.

By E. W. Hudson [*A.*].

Part I. (History) [*continued from page* 436.]

1542.—After the surrender, the site was granted by the King to George Harpur, with a messuage and garden; and three years later it was granted* by letters patent to Henry Webbe, Gentleman Usher to Queen Katherine Parr, who wrote the following letter on his behalf,† specially urging a speedy completion of the sale of the property:—

> By the Quene.
>
> Kateryn the Quene Regente K.P.
>
> Right trustie and well beloved we grete you well.
>
> And forasmoche as we ar informed by creadeble reporte, that, at the time of the surrendre taken of the Nonerye of Hallywell, my lorde the King's ma^{ties} will and pleasure was, that our trustie and welbeloved servant Henry Webbe, gentilman huisher of our privie chambre, shulde have the preferment of the house and demeanes of the same. Albeit, after that, meanes were founde to defeate him, that he had but onlye the house, chambers and certein gardyns lyeng within the precyncte of the same, amounting to the rente of vj^{li} yerelye, as by his indenture moare playnly it doeth appere. Sythens that time, he hath byn in suite for the purchas of the hole, and hath had the pertyculars long time in his custodie. Wherefor in consideracion that our saide servant never opteigned the hole benefytt of his first grannte, but that the best parte of the said demeanes was holden from him, and so contynually is lyke to bee.
>
> We shall hartely desire and pray you to be so favourable to him at this oure earnest request as that he may for his monye have the purchas at youre handes of the said vj^{li} whereof he hath th' indenture. And in declaring youre kinde and loving frendeship towards him effectuouslye at the contemplacion of these oure lettres we shall gratefully accepte it, and also thankefully remembre it whensoever occasion shall serve us to doe you pleasure. Yven undre oure Signet at my lorde the king's ma^{ties} Honoure of Hampton Courte, the xxiij of July, the xxxvjth yere of his Highnes most noble reyne.

To whom this letter was addressed does not appear. The year is 1544, the Survey and Report is dated 1st Sept., 36 Hen. VIII., and the final Grant, 23rd Sept., the purchase money being £136. Susan, Henry Webbe's daughter and sole heir, married Sir George Peckham. His title to the property is given in *Lans. MSS.*, vol. iii. p. 51.

Subsequently we read that "Many houses have been there builded for the lodgings of Noblemen, of Strangers born, and other." Probably some of the old materials were used for these buildings.

1559.—Twenty years after the Dissolution, in the first year of Elizabeth, another grand funeral procession set forth, now *from* the churchless Priory instead of towards it, viz.:—

> From this House was carried the corps of the Lady Rutland Oct. 21, to Shoreditch Church, with 30 Clarkes and Priests singing: about threescore poor Men and Women in black Gowns. Mourners to the number of an Hundred. Two Heralds of Arms, Garter and York. Then came the Corpse; afore a great Banner of Arms: and about Her four goodly Banner Rolls of divers Arms. Mr. Becon preached. After was dispersed a great Dole of money, being 2d. apiece. And so all departed to the Place to Dinner. About the Vallance was written: *Sic Transit gloria Mundi.* (Strype.)

1576.—The site was now being cut up for various purposes. There is mention of a lessee in this year, one Giles Allen, who sub-leased a parcel of land to James Burbage of London, joiner, who, it is interesting to note, built thereupon "The Theatre," which existed for some twenty years on a portion of the site of the Priory, abutting upon Holywell Lane.

1592.—In this year, and fifty-three years after the surrender, a list of religious establishments, *inter alia,* records under the head of Convents for Women "that of Holiwell by Shoreditch." The only way to account for its existence in the thirty-fourth year of Elizabeth is that it was rehabilitated by Mary in the undemolished Priory buildings some time during the short revival of Romanism, and that the establishment lingered on in a decadent state for over half a century, side by side with theatre, tannery, market-gardens, desecrated well, and new houses for the aristocracy skirting the main road, until finally the last nun was laid to rest, and the ancient cemetery, where for five hundred years the Sisterhood had found sepulture, was closed for ever—a true epitome of the change in English life and customs in the nation at large. On the other hand, there is the fact that the Prior and brethren of St. John of Jerusalem, Clerkenwell, reinstated in 1557 and estates restored by Queen Mary, were again suppressed in the first year of Elizabeth (*Tanner*); and those Black friars who attempted to rebuild St. Bartholomew's nave were promptly stopped by her.

In this year, on 9th March, was carried from Haliwell, where she died, the body of Elizabeth, widow of Bishop Scory, and interred in Shoreditch old church under a marble tomb "of the composite order." Her husband was successively Bishop of Rochester, Chichester, and Hereford, *temp.* Edward VI. and Elizabeth. In Queen Mary's reign he put away his wife, and did penance for being married, at Bishop Bonner's instance, and though he obtained absolution, he lost his bishopric of Chichester. Elizabeth afterwards promoted him to the See of Hereford, and he died in 1585.

There is very little to be gleaned respecting the

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* The text of the Survey for the Grant will be given in the appendix to appear in a future number.

† Cotton MSS., British Museum.

Seventeenth and eighteenth centuries

site or the remains of the Priory during the seventeenth century. Some account of the conditions and changes in the vicinity will be given under a subsequent heading ("Surroundings"). These changes, if not rapid, were mostly decadent. The good houses along the main road had originally large gardens attached, if we may believe the detail of contemporary maps, so that it is rather surprising to find that in 1745 the precincts were closely covered with buildings, except the large courtyards, and a plot of garden-ground at the north-west of the enclosure, three-quarters of an acre in extent, containing the contaminated and desecrated well, then only used for watering the garden. (See plan, p. 238 *ante*.) The names of the courts and alleys laid out thereon are given later; and thoroughfares as they exist now are shown in fig. 3.

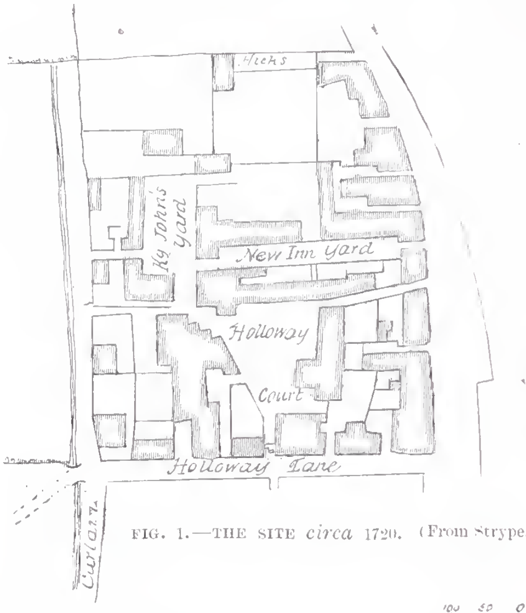

FIG. 1.—THE SITE *circa* 1720. (From Strype.)

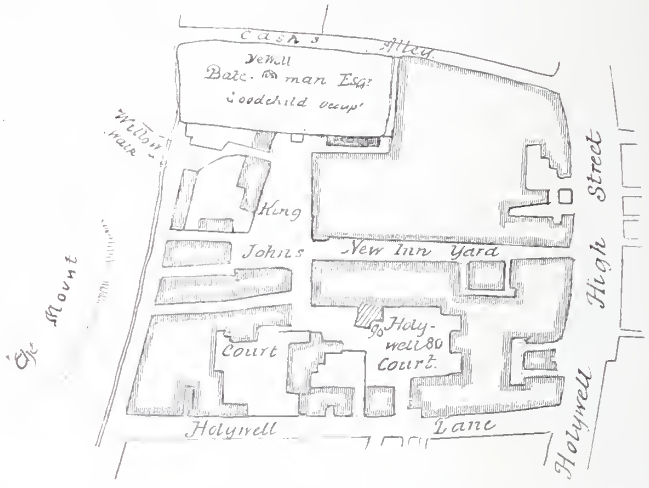

FIG. 2.—THE SITE IN 1745. (From Chassereau.)
90. "Remains of ancient Priory." 80. "Here are remains of ancient Priory."

1720.—A map given in Strype's "Stow" shows the site and surroundings at this date, and compared with Chassereau's and Roque's surveys twenty-five years later, variations are noticeable both in size, shape, and arrangement; but as New Inn Yard occupies about the same position in each, I shall take it as the base-line of the restored plan which I hope presently to evolve from the fragments of disjointed data to be found among various records of the past. Portions of Strype's and Chassereau's maps showing the site and a few surroundings are reproduced approximately to the same scale in figs. 1 and 2. The second shows a solid block of buildings at the north-east portion, which is no doubt the result of want of detail. There are considerable discrepancies of outline, but the original cloister position seems occupied by Holywell Court, and a square block answering to the gate-house may be plainly seen in each about midway down Holywell Lane. Some small almshouses, known as Hillier's Charity, occupied part of the Curtain Road frontage between Bateman's Row and New Inn Yard.

The order of succession of owners and lessees of the land and messuages upon the site are not very clearly known. Harpur, who had it at the Dissolution, was succeeded three years later by

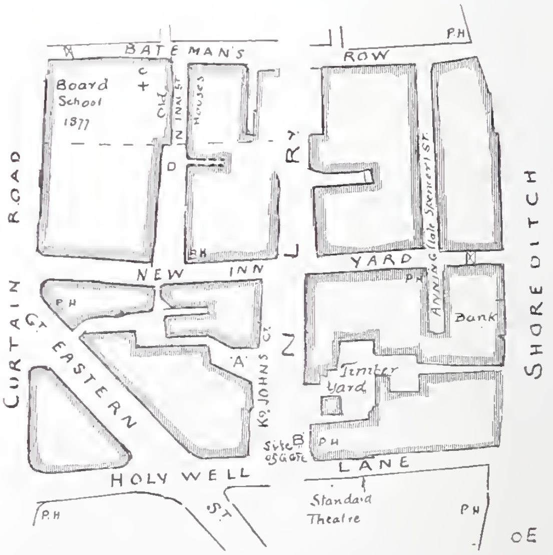

FIG. 3.—THE SITE IN 1897.

A, Lead coffins, 1863 [? cloister]. B, Site of "Old King John" P.H. and ruins of Priory gate, existing 1843. C, Site of "Holywell" on Bateman's Plot. D, New Inn Broadway and Socrates Place, date 1787. E, Well found Oct. 1896 opposite 200, High Street.

Webbe and his son-in-law, Sir G. Peckham. Then we find it recorded, "the grocers have *the* lands," but as this was in connection with the source of income for the chantry priests, it probably referred to property in the City—Cornhill to wit (?). Reversion to the Church may have taken place in Queen Mary's reign, when no doubt the nunnery was reinstated.

1734.—Seymour (who announces his *Survey* as an "improvement upon Mr. Stow") tells us (p. 727)—

> In Holywell Street is a Still-house known by the name of the "Holy-well Still-house," belonging to which is a curious large well called the "The Holywell," from which the street takes its name; which well was a place of great resort in the Romish Times, when that which is called King John's Court was a Priory.

Again:—

> The last remarkable Place is King John's Court, which is a very antient Building, situated near Holywell Lane.

If we may rely upon this as the result of actual survey, there were habitable buildings then existing which had been parts of the Priory. This is confirmed by a survey made eleven years later, as hereafter mentioned. Seymour may be trusted, no doubt, as to there being a still-house, although it is difficult to fix its position in Holywell (*High*) Street, and yet give it access to the well on Bateman's plot so far away. He, however, got into confusion over other wells, mistaking that off "The Strand" for the one, the subject of inquiry, as is noted by Maitland and mentioned p. 238 *ante.* In our own day too, Eliza Cook, or her annotator, falls into the same error in regard to the subject of her poem, "The Holywell." The sentiment, however, has of course a general application.

1745.—Chassereau's Survey of St. Leonard's parish made. Fig. 2, p. 470, is enlarged from it.

1788.—A writer in the *Gentleman's Magazine* of this date says:—

> In Holywell Liberty is, or not many years since was, the (holy) well from which the Liberty is named, formerly as much renowned for miraculous cures as now it is slighted.

1799.—There is an excellent survey of London, Westminster, and Southwark of this date published by R. Horwood to a scale of two feet to a mile, showing every building on the Priory site. The west side only of New Inn Street was then built; Anning Street existed as "Plumb-pudding Row," and across Holywell Court was a double row of houses called Foster's Buildings. Bateman's plot is partly built over, but the well is not shown.

Nineteenth century

1822.—There is a memorandum of this date in a new edition of Dugdale, stating that the chief freeholder of the site at this time was a Mrs. Newsam of Hackney.

1843.—Stonework of a subterranean doorway and "some other remains underground at or near 'The Old King John,'" sketched by Mr. W. S. Hendry [*Notes and Queries*, vol. vii. 1853].

1862.—North London Railway extension begun, when the above public-house was pulled down. The owner was Mr. Thomas Reece, of Kingsland Road.

1863.—Discovery of two leaden coffins in King John's Court during Main Drainage Works (to be described in a future chapter under the heading "Buildings").

1867.—North London Railway widening projected. Subsequently, during construction across the site, "several articles and stones were unearthed in the neighbourhood of Holywell Lane." Several skeletons were found and "reburied, or bricked up in the pocket-arches of the bridge in King John's Court." Relics of mortality, to be perhaps one day rediscovered by some antipodean antiquary, as being the bones of nuns walled up alive for broken vows! No record was kept of the "articles and stones."

1896.—A brick-steined well found opposite No. 200 High Street (p. 237 *ante*).

1897.—The oldest houses on the site are on both sides of New Inn *Street*, which, although one thoroughfare, is separately named and numbered (1 to 7 and 8 to 14) from New Inn Broadway, and the point where these meet represents the southern boundary of what was "Bateman's plot," clearly marked by the difference in the width of the street and the age of the houses. As this plot was vacant at the date of the latest of these old surveys, it is certain that they are the original houses built towards the end of the eighteenth century. Over an arched entry into a court close by is an oval tablet inscribed "T. R.—Socrates Place, 1787." These houses are very dilapidated, and must soon, in the ordinary way, disappear.

Behind Nos. 5 and 6 is the site of the "Holywell" (p. 237 *ante*). The remainder of this plot to the west is occupied by a large Board school built in 1877 on what was a timber-yard, and the playground is behind the old houses above mentioned.

No Register of the Priory is extant, but in a book in the Bodleian Library is a MS. note which refers to a "*Domesday of the Nuns of Haliwell.*" Nothing, however, is known of such a work.

An account of the arms, seal, and founder, and notices of buildings more nearly connected with those of the Priory, its relics and ruins, are reserved for a future part, having, perhaps, more general interest for an architect.

(To be continued.)

9, Conduit Street, London, W., *23rd September* 1897.

CHRONICLE.

Brussels Congress.

The President, Professor Aitchison, A.R.A., has kindly furnished the following account of his recent visit to Belgium, and of the proceedings at the International Congress of Architects, held at Brussels under the auspices of the Société Centrale d'Architecture of Belgium :—

I was one of the members of honour invited to the Brussels Congress, and owing to an appointment being put off was enabled to attend. I reached Antwerp on Saturday morning, 28th ult., and was warmly received by M. J. J. Winders [*Hon. Corr. M.*], who showed me over his own unfinished house, which is built, and being finished in the old Flemish style ; and though all of it has been most carefully designed, one of the ceilings is particularly elegant. M. Winders then took me over the Museum he built, a stately building with a Corinthian portico, and admirably lit for the pictures and engravings ; and, after showing me the town, took me to the Zoological Society, where a new hall and staircase have been lately built, the columns of which are of the pink and white porphyry of the Alps, with bronze bases and brazen capitals. Attracted by the fascinating personality of M. Winders, I stayed the night at Antwerp, and joined the Congress at the Exposition at Brussels, on Sunday morning. I was there introduced by Mr. John Slater [*F.*] to M. de Bruyn, the Minister, and to M. Dumortier, the President of the Belgian Central Society of Architecture ; to M. Newnham, Vice-President of the Central Society of Paris ; to M. Acker, and to other distinguished members of the Congress, and met there Dr. Cuypers and M. Ch. Lucas.

About 1 o'clock the members proceeded to the Palace of the Academies, and the members of honour were conducted by the Minister and M. Dumortier to the vestibule to wait the arrival of His Majesty the King of the Belgians. On his arrival His Majesty most graciously spoke to each member present in his own tongue, and inquired after the progress of architecture in their several countries. His Majesty told me, in English, "that he had a house at Ostend, whither he went for a change in summer and winter, built for him in England, and said it was perfectly convenient and comfortable ; that it kept him cool in summer and warm in winter." The members of the deputation resumed their seats in the Council Chamber when His Majesty and his attendants were seated in the royal box. After the introductory speeches of the Minister and M. Dumortier, the President of the Royal Institute of British Architects was asked to speak, and I said a few words in English. M. Dewaele then read his Paper "on Restoration," and after some discussion, and an eloquent speech by M. Ch. Lucas, I contributed some remarks to the effect "that nothing could be said against restoration that was merely necessary repair possible to be done ; but that the so-called restoration of carved work, of which no trace was left and no drawing or model, was simple forgery, that falsified the building, giving nothing of the old, and but the faintest trace of the skill and taste of the present."

From my mistaking the place of meeting and going to the Exposition, I missed the preliminary conference on Monday morning. The whole company met at the Hôtel de Ville at 12 o'clock, where they were received by the Burgomaster, M. Ch. Buls [*Hon. Corr. M.*], and shown over the building, and were then taken in carriages to view the Palace of Justice, the Palace of the Fine Arts, and the Palace of the Nation, and in the evening there was a banquet in the Hall of the Royal Society of Harmony.

On Tuesday morning at 9 there was a meeting at the Central Society's rooms at the Bourse, where M. L. Bonnier read his paper on the question, "Should there be a diploma for architects ?" and M. De Becker read his paper on the same subject. I made a few remarks on this question, in French, which will be found in the Proceedings of the Congress.* The whole company then went by rail to the ruins of the Abbey of Villers. An address on its history and peculiarities was given by M. C. Licot on the spot, and many of the company were taken round the ruins by M. De Becker, to whose hands the restoration has been entrusted. Unfortunately a heavy storm of rain came on just as the ruins were lit up with Bengal fire.

On Wednesday, at 7.30 a.m., there was an excursion to Antwerp, but as I had so lately been there I did not go.

At 9 on Thursday papers were read by MM. Brunard and Janssens, and by M. G. Maukels on "What are the means of securing to architects the artistic property of their works ?" with discussions and a vote. The whole party then went to Tervueren, where there is an interesting exhibition of the arms, instruments, animals, and productions of the Belgian Colony on the Congo. There were curiously worked weapons in copper, bronze, and steel hung on the walls, as well as musical and other instruments, and photographs of the country and its inhabitants. Life-size groups of the natives by Belgian sculptors were placed in the rooms. Lunch was taken here, and the President R.I.B.A. was asked to return thanks for the ladies. He made a short speech in French, in which he said, "Presque tous les hommes ici sont des architectes et en conséquence amateurs du Beau, et j'espère de la belle aussi."

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* These are the *Compte-Rendu* of the Congress, which will be found in the Institute Library when published.

In the evening all the members of the Congress were invited to attend at the opera, where *Carmen* was given. An appointment was made to meet at the Bourse at 9 on Friday morning to discuss the proposed restoration of the Convent at Belem, in Portugal, by M. Pedro d'Avila, and it was agreed that there was no occasion to rebuild the modern tower that has fallen down.

The following is the substance of my thanks to the Central Society of Belgium as President of the Royal Institute of British Architects :—

"Mr. President and Brother Architects,—It was with the greatest pleasure that I received your kind invitation to attend this Congress, and was glad that I was able. It has given me the opportunity of seeing the beauties of your capital, of becoming acquainted with your architects, and of being introduced to many of the celebrated architects of the world; while it was flattering to be asked to give what assistance I could in solving those burning problems that we hope may help our beloved art. Flanders, to use its old name, has always been noted for its skill in the visual fine arts, in architecture, painting, and sculpture, and also in those branches of artistic workmanship that have given to mankind so much instruction and delight. How many of the glorious stained-glass windows in the world owe their realisation to Flanders, not to speak of the tapestries, the armour, the ironwork and other artistic productions, it would be wearisome to name. Many of the heavenly windows of Italy owe their realisation to the Flemings; and who knows how many others in the different countries of Europe? In England, at least, we owe a church in Gloucestershire to the admiration excited by some stained-glass windows plundered from a Flemish galley; many of our palaces, castles, and country-houses owe the enrichments of their walls and floors to Flemish looms, while our first Exchange in London was designed by a Flemish architect. In a society consisting almost wholly of architects, our own master art is not likely to be forgotten. We all know the instruction and delight we have obtained from all the other fine arts that have ever flourished; but while their masterpieces have become the cherished possessions of every civilised nation, we have to go to these nations themselves to see the masterpieces of their architecture. Oblivion alone would be the lot of such dumb nations as Egypt or Mexico, if their architectural monuments had been destroyed. Architecture, too, as M. Ch. Garnier has said, is an obtrusive art, and cannot be hidden away like a picture, a statue, a poem, or a piece of music. In the name of the Royal Institute of British Architects I beg to return you its thanks for the honour you have done it in inviting its President to your Congress. While I personally have to express my gratitude for the honours bestowed on me—not the least of which was seeing your revered Sovereign take interest enough in our art to preside at this Congress, as well as to the interest he took in the progress of English architecture—I am indebted to the Central Society, now celebrating its twenty-fifth anniversary, for its warm-hearted reception, and for having given me the opportunity of meeting so many distinguished architects, and of taking a part in their deliberations, and to your Royal Academy for the great honour it has done me in making me one of its Foreign Associates, of seeing that grand modern building, the Courts of Justice, and of observing the originality, the care, and the artistic skill displayed in the recently built houses in Brussels. In the name of the Royal Institute of British Architects and in my own I wish success and long life to the Central Society. I indulge in the hope that is cherished by every architect, that at the end of this century, which has made so great an advance in knowledge, architecture may enter on one of those epochs of glory that have stamped the civilisation of other countries in times long passed."

M. Charles Garnier and Mr. Phenè Spiers were prevented from attending through illness. Our old friend and Hon. Corr. Member M. Ch. Lucas, from whom we have always received so much assistance and information, was very enthusiastic over our Examinations; and I was glad to find that there was a general agreement among the members of the Congress that the Royal Institute of British Architects was not only the largest, but also the most important Architectural Society in the world.

After the Congress I met Dr. Cuypers at Amsterdam, and saw his two grand works there, the Museum and the Railway Station, the latter about a thousand feet long. The buildings are of brick with stone dressings, adorned externally with tile panels of monumental colouring, illustrating historical scenes in Holland. These two buildings are vaulted, and at the Museum the lighting of the pictures is admirable. Dr. Cuypers has hit upon a scheme for making the box girders used architectural by means of painting; a broad band of gold on each side of the soffits gives an air of ornament to the rivets, and the rest of the girder is painted in strong but harmonious colours, while the vaults are of the natural colour of the pale-yellow bricks, with floral ornaments bordering the vaulting ribs.

I was also shown by Dr. Cuypers some of his churches and houses at Amsterdam, where brick and iron are successfully combined.

G. Aitchison.

Mr. W. J. Anderson's Lectures at Glasgow.

A remarkable series of lectures by Mr. William J. Anderson [*A.*] has been arranged by the Glasgow School of Art for the coming session. The course, consisting of twenty-four lectures, is entitled "The Historic Development of Architecture," the separate lectures being headed as follows:—

1. Egyptian, Babylonian, and Assyrian Architecture. 2. Mycenean Age in Greece. 3. Archaic Greece. 4. Culmination and Coalescence of Hellenic Art in Attica. 5. Culmination in Attica and Ionia. 6. Declining Greece and Romano-Greek Revival. 7. Etruscan Rome and the Augustan Age. 8. Culminating Period of Trajan and Hadrian. 9. Decline and Fall of Roman Imperial Architecture. 10. The Early Christian Era. 11. Byzantine and Romanesque Architecture. 12. Gothic Architecture in the Making. 13. The Early English Style. 14. The Middle English Style. 15. The Completed English Style. 16. The Florentine Reversion to Latinism. 17. The Early Renaissance beyond Florence. 18. The Culmination in Rome. 19. Three Architects of the Roman Renaissance. 20. Michelangelo, Palladio, and Decline. 21. The Renaissance in France. 22. The Renaissance in England. 23. Scottish Domestic Architecture. 24. The Nineteenth Century in Western Europe.

A note to the "syllabus *raisonné*" issued by the Glasgow School of Art contains the following remarks: "The historical method has been adopted in these lectures, not merely because such a course gives a consecutive view of the rise and fall of architecture in relation to civilisation, but also because the historical treatment affords the largest opportunity for the study of the best examples; for an analysis of the principles of design; for an insight into the controlling forces behind the artist; for an insistence upon the influence of fresh purpose, and for noting the effect of the changes wrought by the use of new materials and processes."

The late George Kenyon [*A.*].

The death is announced of Mr. George Kenyon on the 22nd ult., at the early age of thirty-five. He had been a member of the Institute since 1889. His decease at the outset of a career of much promise is greatly to be regretted. He entered the office of Mr. Edward Hughes of Huddersfield at the age of nineteen, but before his articles had expired he found he had learned as much as he could in the office, and went to the École des Beaux-Arts in Paris, where he studied under Pascal for three or four years. Coming back to London, he worked under Mr. W. D. Caröe [*F.*], and a few years afterwards went into independent practice. His chief work was the Hope Hospital at Langhope, which he designed in association with Messrs. Woodd and Ainslie. His connection with the Royal Institute was an honourable one. He was Tite Prizeman in 1888, and served for a time as Hon. Secretary of the Art Committee.

Additions to the Library.

The ninth edition of Murray's *Handbook for Egypt* [London: John Murray] has been received from the publisher. The greater facilities of communication which have revolutionised travelling in Egypt, and the vastly increased knowledge which we possess, in the light of recent research, of the history, religion, and architecture of its ancient inhabitants, have necessitated the practical rewriting of this edition, which has also been supplemented by a number of new maps and plans, carefully executed from the most recent surveys. Miss Mary Brodrick, Ph.D., aided by Prof. Sayce and Captain Lyons, is responsible for the editing of this scholarly and practical guide.

Count Goblet d'Alviella, President of the Royal Academy at Brussels, has presented a pamphlet entitled *Des Influences Classiques dans l'Art de l'Inde*, a Paper originally contributed by him to the *Bulletins* of the Academy.

Mr. J. Stübben [*Hon. Corr. M.*] has sent a copy of the *Deutsche Bauzeitung* for July, containing a short article, illustrated, from his pen entitled *Der Umbau der innern Stadt Agram.*

Mr. W. Griggs, the publisher, has forwarded the last quarterly part of *The Journal of Indian Art* (vol. vii. No. 59), containing an article by Mr. N. N. Banerjei on "Dyes and Dyeing in Bengal," with examples of stamped patterns. Mr. Edgar Thurston contributes to the same number an article on "The Cotton Fabric Industry of the Madras Presidency," and gives some reproductions of Arcot wood blocks.—Mr. Marcus T. Reynolds contributes the second part of his article on "The Villas of Rome" to the September number of *The Architectural Record*; and Mr. Jean Schopfer writes on Swiss Chalets, and Mr. Barr Ferree on the Cathedrals of Provence in continuation of his series of articles on French Cathedrals.—Mr. George Hirth, the publisher, has presented, through Messrs. Williams & Norgate, parts v. and vi. of *Der Formen Schatz.*

NOTES, QUERIES, AND REPLIES.

The Sculpture of the West Front of Wells Cathedral.

From S. J. Nicholl [*A.*]—

Some little time back I formed the idea that the inspiring source of the west front of Wells Cathedral might have been the Greek screen, the triumphal image-bearing entrance to the sanctuary, and I ask leave to submit my parallel.

The Iconostasis is described in a Paper by Herr Hallman in the Institute TRANSACTIONS,* as a colossal screen occupying the whole width of the church. It is divided into a series of horizontal bands, the lowest having the three entrances, the central door adorned with a representation of the Annunciation. The upper tiers are composed of figures painted on tablets or in niches representing the Blessed Trinity, our Lord enthroned, the Madonna, patriarchs, prophets, saints, and angels; the central figures, including the crowning one, being seated, and filling up the panels to the full height, are larger than the others; the complete screen, having a tier generally only half the height of the others, containing subject groups of figures.

Now in the façade of Wells we have the marked division of the whole front, which forms a screen to the body of the church, into horizontal bands, the lower one with its three doorways, the central doorway adorned, not by the joyful mystery of the Annunciation, but by the glorious one of the Coronation. Above are tiers of niches with single figures, and a band of smaller size than the others containing subject groups of figures; the whole crowned by a central figure, of large size, of our Lord in judgment and triumph. The smaller band of sculpture represents the resurrection of the dead.

The whole thus may be said to be a typical reproduction of the Iconostasis, as also a poem of the resurrection and glorification of the just, commencing with the Coronation of the Blessed Virgin, whose body was by a singular privilege assumed to glory before the general resurrection.

I should be grateful for any remarks on this subject from those who have had special opportunities of studying the sculpture in detail.

REVIEWS. LIX.

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MONT BEUVRAY AND AUTUN.

The Mount: Narrative of a Visit to the Site of a Gaulish City on Mont Beuvray; with a Description of the Neighbouring City of Autun. By P. G. Hamerton. 8o. *Lond.* 1897. *Price* 3*s.* 6*d. nett.* [*Seeley & Co.*, 38, *Great Russell Street.*]

This book, as the preface says, is an unpublished portion of "Round my House," and it is written in the same pleasant, unaffected style as its predecessor. Mr. Hamerton was a man with all an artist's instincts, and to hear him chat about architecture—as he does a good deal in this book—is very interesting, and may be instructive. It is well for us architects to have our problems discussed occasionally by outsiders who have had an artist's training. We then see things from the point of view of men who, though not reared by the mother of all the arts, still possess a keen eye for the eternal fitness of things; and this possession, together with a knowledge of where to draw the line, goes a long way towards furnishing an artist's equipment.

The old question of what makes a building look beautiful is discussed by the author and his friend the antiquary, and they set themselves to consider "how it was that rude, unlettered peasants, centuries ago, could design an interesting building, when the clever, educated architects in modern towns only design things that make an artist shut his eyes or look in another direction." The conclusions they come to must be gathered from the book itself; but it may be forgiven to architects in modern towns if they do not readily agree with the latter of the premisses from which the argument starts. The vexed question of restoration is also discussed, and the reader as he turns the pages, no matter to what school he belongs, will now bless and now curse his author, who in one paragraph shines with the radiance of the Chosen People, and in the next with the brazen gleam of the Philistine.

The Mount is the site of a Gaulish city, a description of which naturally involves a certain amount of antiquarian detail; but this is not unduly obtruded, and there are so many excursions into the neighbouring country that the architect in search of a sketching-ground can gain a fund of suggestions. We read of Romanesque churches, of which Mr. Hamerton was (perhaps unreasonably) fond; and of Renaissance châteaux, one having a "pigeon-tower with its dome and crown of columns," another having formal gardens, and yet another with a cut horn-beam hedge twenty feet high and a thousand yards long. Mr. Hamerton confesses "to an old-fashioned liking for formality in gardens," and puts the case for them with much simplicity and force. As he wrote in the early seventies, he was a kind of prophet, a voice crying in the wilderness for paths to be made straight.

A passage of singular interest is a description of how he and his antiquarian friends, having found a Gaulish hearth with the ancient embers still left on it, lighted a fire thereon and set aglow the ashes that had been dead for two thousand years. He remarks how profoundly this incident stirred their imaginations, and imparted to himself an altogether unexpected faculty for translating Rossetti's poems into French verse *extempore*. We must all have noticed—though not to so singular a degree—how simple things will stir the imagination: a strain of music, the colour and disposition of a few clouds at sunset, or a wide view from a commanding hill. Mr. Hamerton's own description of a visit to a deserted château by night has much to stimulate the mind, though not to the extent of enabling one to translate Rossetti into a foreign tongue.

The second part of the book is devoted to the city of Autun, a place full of interest to an architect, however wide or narrow his sympathies; for there are in it remains of all periods and styles, from the time of the Romans down to those of us "architects in modern towns." There is nothing dogmatic in what Mr. Hamerton says; it is all simple, genial, and suggestive; and one lays down his book with a desire to go and see the places he talks about. No greater compliment can be paid to a book of this kind than that.

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* "History of Greco-Russian Ecclesiastical Architecture," TRANSACTIONS R.I.B.A., Vol. I. (1842), p. 95.

Kettering. J. Alfred Gotch.

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A POCKET PRICE-BOOK.

A Price-Book for Approximate Estimates. By T. C. Coleman, F.S.I. 32*mo. Lond.* 1897. [*E. & F. N. Spon, Limited*, 125, *Strand.*]

Mr. T. E. Coleman, F.S.I., has compiled a handy little book, which, with the exercise of care, will be found very useful to architects, engineers, and builders. The object of the book, as stated in the preface, is to "afford assistance to those who from time to time must be prepared to determine (often at a moment's notice) the approximate cost of various buildings and works which are in the preliminary stage of consideration, or for which only general schemes and designs have been prepared."

Viewed in this light the very numerous items conveniently and alphabetically arranged by Mr. Coleman would be of considerable service to all engaged in making approximate estimates; but probably we have all at some period of our lives found how mistaken we have been in quoting to our clients the probable cost of buildings, based upon estimates obtained by the familiar "foot cube" or "square" process. Too much caution cannot be adopted in forming estimates, which are to be of any value, upon the fallacious "foot cube" principle; and if ever the expression "circumstances alter cases" becomes of value, it certainly does in this "cubing" method. With that reservation, however, Mr. Coleman's book will, as I have said, be found to be of much service, and where I have been able to compare his figures with my own experience the divergence has not been great. For *London*, however, with labour as it is, his prices are, in some instances, rather low. Wm. Woodward.

LEGAL.

THE LONDON BUILDING ACT, s. 74.

Division of Buildings used partly for Trade and partly as Dwellings.

A case of some interest under section 74 of the London Building Act was recently decided by Mr. Hannay at the Marlborough Street Police Court, in connection with the rebuilding of the "Rising Sun" tavern, situate at the corner of Windmill Street and Tottenham Court Road. The whole of the ground storey was arranged as a bar, entered from both streets, and the first storey, all except the staircases, constituted a large billiard-room. The plans showed a single staircase, approached from the bar, leading to the first storey; and the landing was separated from the billiard-room by an enclosure which was proposed to be of brickwork $4\frac{1}{2}$ inches thick, with a door to the billiard-room having glass panels. From this landing, but separated both from the billiard-room and from the staircase last mentioned by a 9-inch wall, a staircase led to the upper storeys, which were to be used as sleeping rooms for the staff, &c.

The District Surveyor served notice of objection on the builders, and the owner appealed in their name from such notice to the magistrate.

Mr. H. Parker Lowe appeared for the appellant, and Mr. T. Seager Berry, instructed by the London County Council, represented the District Surveyor.

The notice of objection of the District Surveyor was to the effect that the building would exceed ten squares in area, and would be used partly for trade and partly as a dwelling, and that these two parts were not separated, in accordance with section 74, by walls and floors of fire-resisting materials, inasmuch as there would be a common staircase belonging to both parts of the building entered from the bar, and without any separation from either part; and also that the enclosure on the first storey, being only $4\frac{1}{2}$ inches thick, and having a door with glass panels, was not a proper wall of fire-resisting materials between the staircase and landing, leading to the dwelling on the one hand, and the billiard-room on the other.

For the appellant it was contended that the enclosure of the staircase up to the one-pair storey and of the landing on that storey, so as to separate the ground-floor stairs from the billiard-room, was not prescribed by section 74; but that it was sufficient to have a staircase starting from the billiard-room upwards, enclosed with a brick wall and a fire-resisting door.

In support of the District Surveyor's notice of objection, it was argued that such a construction as the builder proposed did not satisfy the section, which in effect required the approach to the dwelling-house portion to be entirely separated from the trade portion; that the section, though clumsily worded, effected this object by saying that "all means of approach to the dwelling-house portion should be constructed throughout of fire-resisting material"; that in this case the dwelling-house portion could not be approached except by coming through the bar, either from one street or the other, to the staircase, and that the bar itself was therefore a means of approach to the dwelling-house portion, and that inasmuch as the bar would presumably have glass windows and doors, &c., in it, it could not be constructed throughout of fire-resisting materials, and so must not be used as an approach to the dwelling-house portion. To comply with the section it was necessary, as the District Surveyor required, to make a separate approach entirely walled off from the bar by a 9-inch wall leading from one of the streets to the staircase, and also to separate the billiard-room from the staircase by a similar wall, since in no other way could the builder provide the dwelling-house with an approach which would be fire-resisting throughout. It was pointed out that such an approach could be readily made from Windmill Street.

Mr. Hannay said that the construction proposed by the builder would produce the very evil that the clause appeared intended to prevent, viz., that in case of fire in the trade part of the building, persons in the dwelling-house part would have to rush through the flames to get out of the building. In this case the bar was being used as an approach to the living-rooms, and the bar could not be made fire-resisting throughout. He accordingly upheld the requirements of the District Surveyor.

In this case Messrs. Treadwell & Martin, the architects of the building, arranged that the objectionable practice of "summoning the District Surveyor" was not taken, but the more proper mode of obtaining an appointment for the magistrate to hear the case, and giving the District Surveyor notice of it, was adopted. In a matter like the present, arising on notice of objection under section 150, nothing in the section warrants any summons being issued to either party.

Ancient Distant View of Oxford from the East. From an Engraving by J. Skelton in *Oxonia Antiqua Restaurata.*

ST. MARY'S, OXFORD By ARTHUR EDMUND STREET [*F.*], M.A.Oxon.

The Church of St. Mary the Virgin, Oxford. By T. G. Jackson, R.A., Architect, sometime Fellow and now Hon. Fellow of Wadham College, author of "Dalmatia, the Quarnero, and Istria," "Wadham College, Oxford: its Foundation, Architecture, and History." With many illustrations. 4o. Oxford 1897. Price 36*s*. net. [The Clarendon Press, Oxford; Henry Frowde, Amen Corner, London.]

THIS book, one may perhaps take it, is by way of counterblast to the irrational outcry which some of Mr. Jackson's proposals in connection with the repair of the spire brought about his ears. After reading it, no unprejudiced man could believe for a moment that the writer had ever been actuated by anything but the truest respect for his charge, whether artistically considered or in its historical associations, or that his actions had been prompted by anything but a just recognition of the necessities of the case. If, however, the criticism of well-meaning but over-sensitive dilettantes has indirectly produced this dignified and sumptuous monument wherein to bury their crude and ill-founded judgments, we willingly acknowledge our indebtedness to them.

How rich St. Mary's is in historical interest is probably known to few. Were we all like Gibbon, who, to an intelligible coldness for his University, added a somewhat contemptuous conception of architecture as an affair of a few mechanical rules, we should still have to confess the glamour of a building which has witnessed scenes as dramatic as any in our national history, has echoed to words fraught with the life and death of heroic men, and should welcome the setting down of a record unapproached by that of any church in the kingdom except Westminster Abbey.

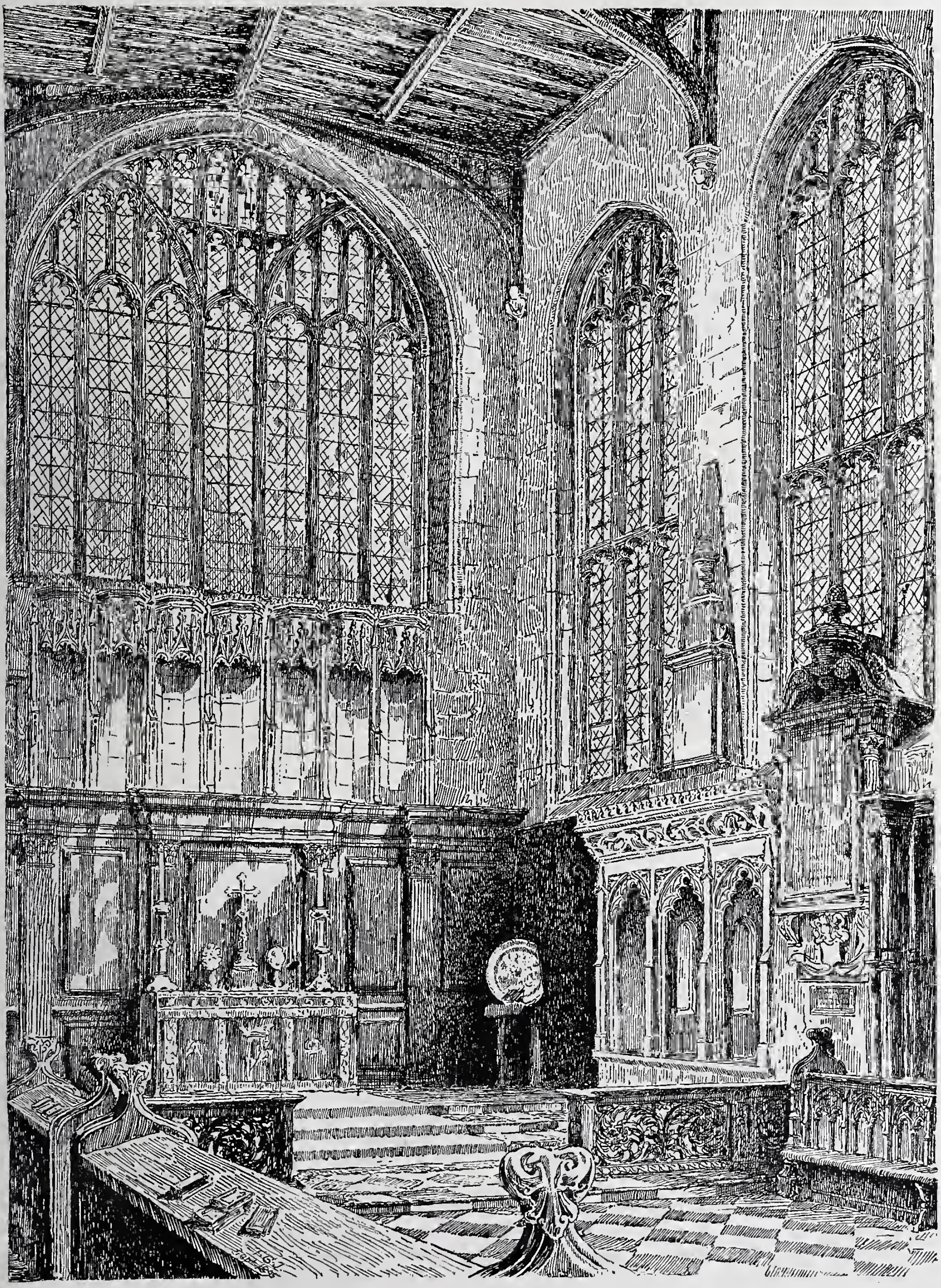
The rebuilding of the church at the end of the twelfth century (for the foundation was a Saxon one) coincided with, and was very likely the outcome of a change, in the University itself, the more regular constitution of the scholars into one body. Till those days Oxford, like many foreign universities of our own times, had been what an Englishman, used to the stately collegiate groups of his own great universities, would look upon almost as an abstraction, a shifting and nebulous body without any outward sign, appealing little to the imagination, and wanting something of the definite unity and fixity of character which the visible bond of a great building for common use alone can give. So much was this actually the case, that in early days there was always the fear that discontented students might, like a flight of migratory birds, seek more congenial quarters elsewhere. Something of the sort actually happened more than once; a "cave" was formed at Northampton by a body of malcontents from both Universities, and there was a reasonable apprehension of the establishment of a permanent rival there, but the rebuilding of St. Mary's put the powers at their ease; thenceforward they could afford to smile at symptoms of secession; the University was anchored to the ground for good, to the satisfaction of no one more than the townsmen, whose prosperity hung in the balance so long as the custom of some three thousand hungry souls was a matter of uncertainty.

St. Mary's was primarily a parochial church; what the exact rights of the University over it were, it would be difficult to say; probably they were founded on prescription and custom rather than on any definable legal title, but in practice the bond between the Church and the University was a very close one. The responsibility for maintenance, the cost of rebuilding, restoring, beautifying, has always lain with the University, has been willingly accepted by the authorities, and as freely renounced by the town.

It is no exaggeration to say with Mr. Jackson that the history of St. Mary's is for a long period the history of the University: within its walls the whole life of the University was lived. Mr. Jackson has graphically described the scene for us. The building was as full of movement as a hive of bees. Here Congregation met, the different faculties in the various chapels reuniting for voting purposes in the choir; somewhere within the walls the Chancellor held his court for the transaction of astonishingly miscellaneous business; hither townsmen and gownsmen were haled to be summarily dealt with. We read of small fines being imposed for shooting at proctors by night, of a vicar of St. Giles's, one Owen, who was bound over to keep the peace, fined two shillings, and constrained to hand over his club. Richard Vyse, late master of the House of St. John, was banished for breaking prison, where he had been confined *propter diversas enormes transgressiones.* So the world wagged then in the seat of learning, and, while these roystering dignitaries and lusty townsmen are in process of conviction, scholars are "disputing and responding" close by, freshmen in the porch or its parvise preparing for "smalls," which word Mr. Jackson ingeniously derives from "*in parviso*," a rendering which a freshman in a very early stage must first have made current. As the student advanced further in his academic career, so he shouldered his way eastward into the church, and a great ceremonial in the nave witnessed the consummation of the labours which were crowned by the Master's Degree. With all this there were frequent masses and other services provided by the University from one cause and another. The examinatory sermons, according to the ordinance of 1311, were to be preached exclusively in the "Church of the Glorious Virgin"; and, as if this were not enough, St. Mary's then served as the chapel of Oriel College, most colleges in the absence of chapels being affiliated to their parish churches. When we find that the University Library was also housed in St. Mary's till the Divinity School and the room over it were built, and that it also sheltered the University chests, we ask ourselves in amazement by what ingenious dovetailing it was possible to find time and place for the satisfaction of the needs of the parishioners, for a parish church it never ceased to be, and analogy will show us that the secular uses to which it was put did not seriously affect the sacred character of the building, or obscure its real purpose to men accustomed to such sharp contrasts.

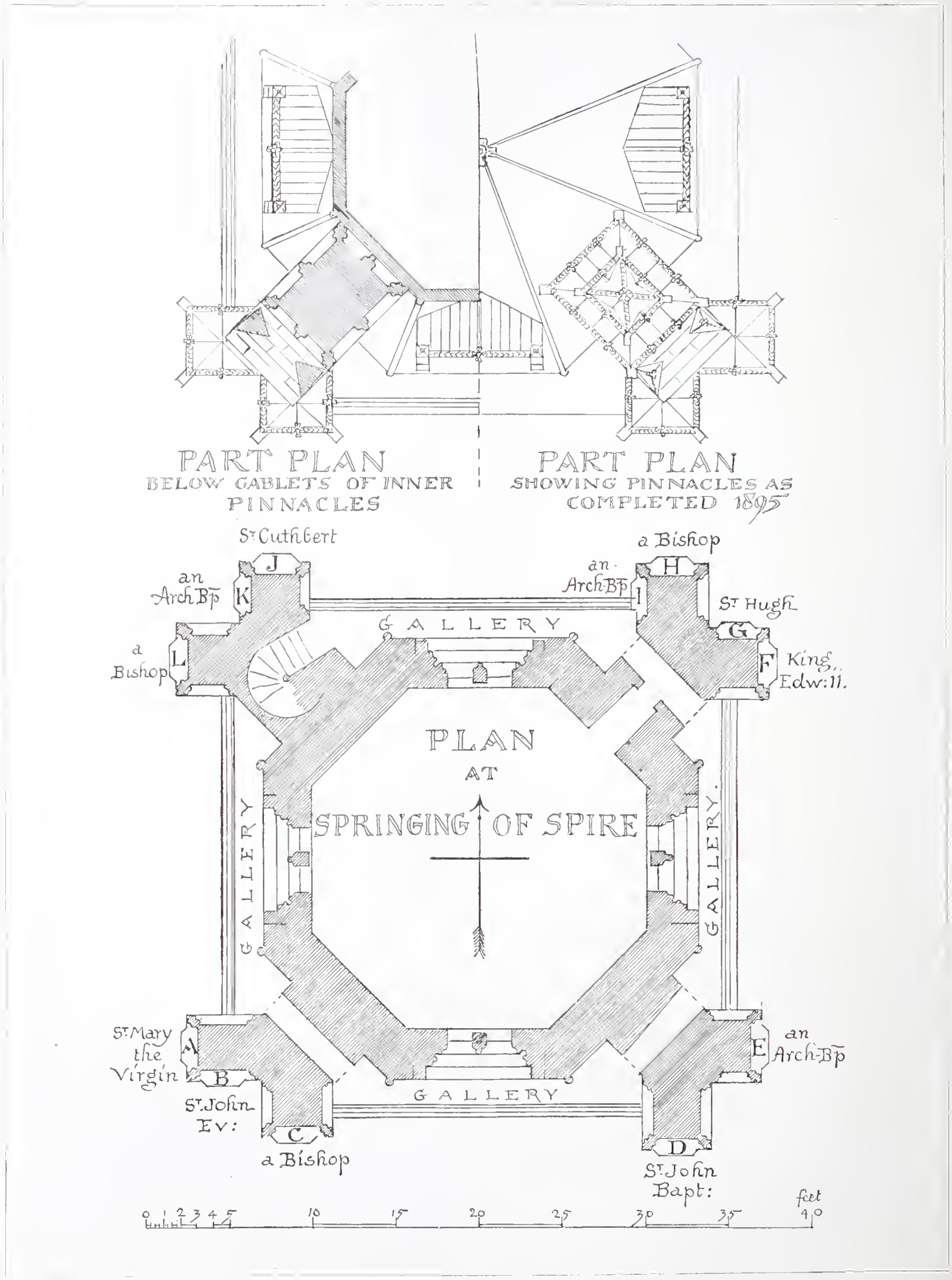
Gradually, as the University felt able to pledge itself more deeply to a policy of building, the great church was relieved of the burden of multifarious secular usage, and when Wren had completed the Sheldonian in 1669, St. Mary's reverted to its simple *rôle*, except that on Sundays and feast days the University attended sermons there in its corporate capacity.

This thirteenth-century building had a short and strenuous existence; within three centuries of its commencement it is on record that "it would often be enough to frighten any one who might chance to enter it in a storm." Somewhere about the year 1462 the



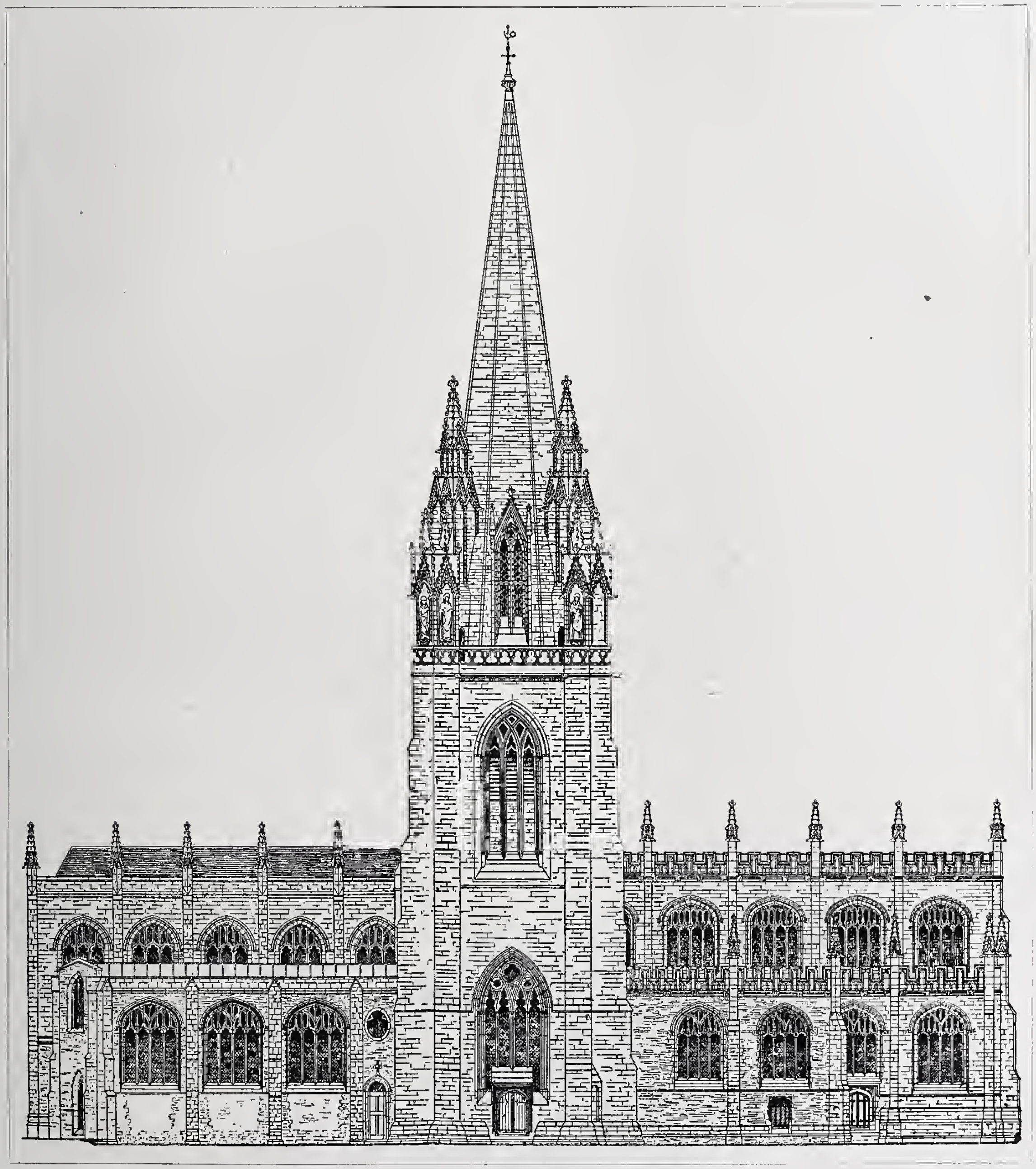
INTERIOR OF THE CHOIR.

Reproduced from Mr. Jackson's book, by permission of the Publishers.



Reproduced from Mr. Jackson's book, by permission of the Publishers.

chancel was rebuilt; a quarter of a century later it was found necessary to do the same by the nave, and by 1510 the whole of the church was either rebuilt or remodelled with the exception of the tower and spire. It is this latest church, structurally identical with that of to-day, which, without any great architectural merit, has so peculiar an interest for us because of the dramas of which it formed the background.



ST. MARY THE VIRGIN, OXFORD. NORTH ELEVATION.

Reproduced to smaller scale from Mr. Jackson's book, by permission of the Publishers.

Twice were Cranmer, Ridley, and Latimer brought here to "dispute," or, in other words, to stand a trial for heresy which a fierce partisanship had long prejudged. Here later did Cranmer, passing from prison on a wild morning full of ill presage, learn from the lips of Cole the futility of his recantation; and here, in the absolute assurance of death, did this frail man, grasping the opportunity which he had been too timorous to seek, pronounce that final confession of faith which has crowned him with imperishable glory.

The staging, which on those occasions was erected at the level of the tops of the choir stalls, necessitated the lopping of the poppy-heads. These still remain untouched, to stimulate our imaginations, and to tell us there were always moments when the Destroying Angel of Restoration could hold his hand.

Twice at least did Elizabeth visit the church—first in 1566, when, with Leicester at her side, she rode over with a great retinue from Woodstock to attend disputations, and as she sat during the four hours whispering to her favourite, the body of Amy Robsart, buried hurriedly six years before, was almost at her feet; but the dead countess was as effectual a bar as any living wife could have been, and when Elizabeth came to Oxford again to say farewell, Leicester was dead, without having shared her throne, and, though many anxieties had been outlived, she had but a joyless and disappointed life to look back upon.

Oxford has always been in the centre of all religious ferment, and her successive pulpits have welcomed in turn the eminent men of every shade of thought: Catholic and Protestant, Arminian and Independent; after Laud, Hugh Peters; men in strange garb, "who accounted nothing more ridiculous than a prelatical cut," outraged the statutes of the ex-chancellor "*de habitû scholastico*." The pulpit from which Dr. Cole had thundered Cranmer's death warrant was a stone one. This was removed by Dr. Bathurst in 1675, when he "decently furnished" the church. From its successor both the Wesleys preached, and from it John Wesley, in 1744, said his last words to the University before cutting himself adrift. That put up by Plowman in 1827, at the time of the general refitting, has been filled by Dr. Newman, Dr. Hawkins, Dr. Hampden, Archbishop Thomson, Dr. Mansel, Dr. Mozley, Samuel Wilberforce, Dr. Pusey, Canon Liddon, and others little less great. The names are an epitome of religious thought in the Church of England for a whole generation.

I have left myself no space to speak of the fabric, but it is so lucidly treated by the author that to try to condense would simply be to obscure. For every one the interest centres in the tower and spire, a work of a truly personal character of which the charm is beyond all dispute. Whether the relative severity of the tower was always intended to lead up, like some bare tree-trunk, to the wealth of delicate foliage in stone which crowns it must always remain a moot point; it must be sufficient for us that we have the admirable result which is Oxford's glory.

Mr. Jackson is justly eloquent over the bold self-confidence of the unknown artist, whose name we should delight to honour if we knew it. He points out, what must always be present to the architect's mind, that his work has to be seen diagonally as well as directly, and that when he is dealing with a square tower and an octagonal spire, his difficulties are emphasised by the fact that the spire almost escapes the operation of that inconvenient law which so largely affects the tower at its foot. When the buttresses are carried up past the parapet, as they are in this instance, the architect deliberately sets himself a problem of which the solutions are few, the possibilities of failure legion. Exactly how the problem was solved here, as it *was* triumphantly, was never known in modern times till a staging made actual measurements possible. Even in Pugin's *Specimens*, oblong, and even triangular pinnacles were both shown square. Mr. Jackson's plans, however, must tell the story for themselves. Only one part of the original design is in dispute, viz., the finish of the four great pinnacles which stand sentinel above their fellows. It was Dr. King, Vice-Chancellor, 1607–10, who first took the repair of them in hand, and it seemed good to him on the flat table which the truncated pinnacle formed to place five small Jacobean spirelets as it were by way of comic relief. Fifty years ago these themselves shared the general decay of the stonework, and Messrs. Blore & Buckler were successively called in to advise. Suggestions were not wanting from other quarters, but Mr. Buckler's design was eventually carried out, his pinnacle being long and attenuated and less satisfactory in outline than Dr. King's odd little arrangement. This Mr. Jackson has now been allowed to replace. For a whole year the scaffold stood eating its head off, while the academic mind was waiting for an inspiration. Every one had his own view and expressed it. To make the situation complete, Mr. Case took upon himself the *rôle* of amateur adviser, which seems traditional in this connection,* and actually submitted a design. Between this and two suggestions by Mr. Jackson the choice lay, and upon one of the latter, though not upon that which that author himself favoured, it ultimately fell.

That the spire has now been brought back to a close approximation to its original outline, and that the statues in the niches at its base have been replaced where necessary, and will now be preserved as valuable examples of an art which was rare in Mediæval England, instead of forming booby-traps for Her Majesty's lieges, is something to be thankful for. That it has been so thoroughly and yet so tenderly done, we owe to Mr. Jackson's quiet determination. He had to deal with a body whose very delicacy of perception and æsthetic cultivation led it into the fathomless bog of indecision; but he won the battle for common-sense, like one who, where his art is in question, is an architect first and an Honorary Fellow of Wadham afterwards.

The writer dedicates his book to his "Alma Mater," and truly she has given him opportunities that fall to the lot of few. If we grant that the obligations are not all on one side, we shall be putting a very high value on the architect's work.

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* It must be confessed that Mr. Case has shown some justification for his interference.

9, Conduit Street, London, W., *14th October* 1897.

CHRONICLE.

The Royal Gold Medal 1897.

A special copy of No. 16 Journal, containing the account of the presentation of the Royal Gold Medal to Dr. Cuypers, having been sent to H.M. the Queen of the Netherlands, the following reply, addressed to the Secretary R.I.B.A., has been received from Her Majesty's Private Secretary:—

Royal Castle, het Loo: 14th July 1897.

Sir,—I had the honour to receive your letter of July 6th, accompanying a copy of the Journal of the Royal Institute of British Architects, which the President of the Royal Institute wished to submit to Her Majesty the Queen for her acceptance.

I am ordered by Her Majesty to express Her Majesty's thanks for this volume, containing an account of the presentation of the Royal Gold Medal to Dr. P. Cuypers, and to say that Her Majesty was very interested in the honour with which the Royal Institute gratified one of the most distinguished of Dutch architects.

I have the honour to remain
Your most obedient servant,
S. M. S. de Ranitz.

The Study of Egyptian Art: A Proposal.

The President has forwarded for publication the following letter from M. Hippolyte-Boussac:—

50, *Rue des Ecoles, Paris*: 30 *Sept.* 1897.

Monsieur le Président et très honoré Confrère,—J'ai lu avec un vif plaisir l'article sur l'architecture en Belgique. Un de mes amis, très versé dans la langue anglaise, m'a traduit votre chronique sur le congrès de Bruxelles, qui m'a aussi vivement intéressé.

Je vous suis d'autant plus reconnaissant de m'avoir envoyé le dernier numéro de votre journal que cela m'a permis de constater une innovation que je serais heureux de voir adopter, en France, dans nos revues artistiques.

C'est l'insertion d'articles écrits en français avec traduction anglaise pour ceux qui ne connaissent point notre langue.

Vous serait-il agréable, monsieur, que, de loin en loin, je vous envoie, pour votre journal, quelques communications, accompagnées de dessins, sur l'art égyptien?

Malgré tout ce qui a été écrit sur l'art pharaonique celui-ci est encore peu connu ou mal connu.

Ne croyez-vous donc point, monsieur et cher confrère, qu'il y aurait lieu de former une sorte d'association internationale ayant pour but l'étude des monuments égyptiens et sa diffusion? A une époque où l'on cherche du nouveau quand même, je crois que ces monuments fourniraient des éléments assez nombreux et variés pour permettre de faire subir à notre art une heureuse rénovation.

Les hypogées surtout, que bien peu de personnes connaissent, renferment des peintures merveilleuses, du plus brillant coloris, où les idées foisonnent: il s'agit de les comprendre et de savoir s'en servir.

Depuis longtemps les philologues de toutes nationalités font constamment des échanges d'idées dans leurs revues spéciales: pourquoi les artistes n'en feraient-ils pas autant dans l'intérêt de l'art, et surtout des monuments, que les savants ne traitent pas toujours avec le respect qui leur est dû?

Veuillez agréer, monsieur le président et très honoré confrère, l'expression de mes sentiments les plus dévoués.

P. Hippolyte-Boussac.

THE EDUCATIONAL TRAINING OF ARCHITECTS [p. 462].

From Frank Caws [*F.*]—

On Mr. Eidlitz's Science of Beauty.

In the early days of the Christian era the sect of *Gnostics* arose. They were, as their name implies, the *knowing ones* of their day. They were regarded and treated as heretics, and they therefore eventually discontinued their name, rather than discontinue their existence and power in the Church. Their vital characteristic was not in the details of their theories, but in their assumption of special knowledge and authority to interpret truth, an assumption which imposed more and more as time went on upon a world of credulous laymen. In early times the Gnostic theories in detail were borrowed from Pythagoras and Plato; but these teachings, proving unpopular, were gradually abandoned for theories of a kind more consonant with the superstitious sentiments and lurid romances of the earliest and Mediæval phases of European religion. In process of time, the common people, after being ground for centuries into blood and dust under the hoofs and heels of these Gnostic frauds, began to withdraw their long-abused trust, and to cease from following these latter-day humbugs, these theologic experts, these all-knowing prelates and priests, who, disclaiming the Gnostic title, still claimed to be the repositories of the secrets of God and humanity, who, as "blind leaders of the blind," had drawn generation after generation into slimes of sin, sloughs of despond, and pits of bottomless despair. And, as was quite natural, some of these undeceived men and women of modern date, by the force of their repulsion from the old state of things, were driven to the other extreme; and so in our own latest days of the Christian era has been instituted a new sect of *Agnostics*, or *Know-nothings*, or *Nihilists*.

It is not only in the realm of theology, but also in every other department of human life, that schools of thought and practice have successfully held the field, with more or less of despotism, age after age, till in their turn supplanted; and thus the struggle which we see now going on in the religious world between Gnosticism and Agnosticism we find also raging in the political world between the same extremes of thought and principle under different names; and we need look no farther than the September number of the Journal to observe this very struggle manifesting itself in a rather peculiar and highly interesting fashion in the domain of Architecture.

Oddly enough, the champion of the Gnostics on this architectural battle-ground comes, not from the Old, but from the New World, in the person of Mr. Leopold Eidlitz, who, being fully persuaded in his own mind that he had come to understand the secret of beauty in art, published a great volume of abstract philosophising in order to communicate to the world his marvellous discovery. Not a few good-natured and healthy-minded British architects and philosophers toiled at this book with infinite humility, hoping it might prove the Klondyke which its title and pretensions seemed to promise. But, alas! they had to give up their delving, without realising any better result than the strengthening of their own patience by its sustained and painful exercise.

To these disappointed miners a new opportunity of nugget-finding unexpectedly arose, when the author of this big book, and owner of this big secret, appeared by proxy at No. 9, Conduit Street, and there read a Paper with the avowed object of teaching the young idea of architectural Europe how to shoot.

Amongst the audience were some greybeards and baldpates, as well as young bloods. But while, in the discussion which followed the reading of the New Englander's Paper, there was no lack of courtesy to the contributor from a far country, there was an apparent lack of appreciative perspicuity; for, judging by the reports of the proceedings which appeared in the Journal and elsewhere, not one of the speakers seemed to express the rapturous feelings of men who have become suddenly possessed of previously untold treasure.

In the September number of the Journal appears *The Author's Reply to the Discussion of his Paper*, which, to put the thing mildly, is a much more spirited and interesting document than Mr. Eidlitz's readers on this side of the Atlantic had learned by former experience of his writings to expect. His critics seem to have put him on his best literary mettle.

But between the lines of this reply a certain air of sadness and disappointment seems to lurk; and the author, while thanking Professor Aitchison for his "kind reception and courageous defence" of his Paper, complains of the "overwhelming opposition" it encountered. He seems to think this opposition arose from a feeling in the minds of his audience which might have been, to use his own words, correctly expressed thus: "Here comes an American from America, a man without traditions!"

Well, it must be admitted that John Bull, merchant, has always fought shy of traders who submit no samples; and John Bull, scientist, has never tolerated theory without experimental proofs by way of samples; and John Bull, architect and engineer, has never done much in the way of transcendental castle building—he has been too busy with real bricks and mortar; and perhaps, if Mr. Eidlitz will consider how long John Bull has been addicted to these peculiar ways, he will not think it a cause of wonder that his Paper was received without enthusiastic appreciation. And perhaps he will now also understand that when he proposed to show his British audience the true Science of Beauty, and how they were to teach it to their sons, if he had exhibited a few faithful photographs of his own most characteristic works of architecture, by way of samples of his doctrine, John Bull would not have cared whether they graced New York or Timbuctoo, so long as they were not "too utterly utter," and were real buildings, and not mere castles in the air.

John is perhaps mistaken in his confirmed habit of judging everything by samples. Yet in spite of this habit (or shall we say *because* of it?) some of John's sons have not done badly. For instance, there was Isaac Newton, who dared not ask John to believe in his big find of Gravitation without getting some samples, such as the actual performances of a real apple and a real moon, to lend colour and substance to his story. And there was James Watt, who worked on with the real lid of a real tea-kettle till he got some real push out of it; and George Stephenson, who made a real locomotive run at good speed on a real railway; and Wheatstone, who made a real message travel by wire in the twinkling of an eye across a real wide sea; and the immortal Michael Faraday, and many others, who gave John Bull actual samples of the operation of their theories and discoveries.

These English boys managed to please John, not so much because they were his own boys, but rather because they always submitted substantial credentials, and thus appealed to John's crude common sense rather than to transcendental qualities of mind, which in John's case are conspicuous by their absence.

It may be well in this connection to mention a story which should (to Mr. Leopold Eidlitz, at least) point this moral with peculiar force. It is reported that some time ago Edison, America's greatest son, was questioned as a witness (in some law case arising out of a dispute about electrical inventions) as to the precise meaning of an *ohm*. Edison is said to have fairly electrified the Court by declaring his utter ignorance of the meaning of that word! Here we see a sample scientist who has passed muster before the judgment of John Bull and the whole world; though, to use Mr. Leopold Eidlitz's own expression, he is "an

American practically right and philosophically wrong," or at least philosophically of no account.

Amongst all the speakers who ventured to join in the discussion on Mr. Eidlitz's Paper at the Royal Institute of British Architects, he seems to have singled out the editor of *The Builder* as the object of special notice in the rejoinder. And, not content with replying to what Mr. Statham said at the meeting in question, Mr. Eidlitz goes out of his way to attack Mr. Statham because in his *Architecture for General Readers* he has written this truly admirable sentence:—

> There is in architecture, as in music, something which defies analysis, which appeals to one's sense of delight we know not how or why, and probably do not want to know.

In these words Mr. Statham states in effect that he is not of the Gnostic school; for he does not profess or desire to know *the unknowable*. Not that he is an Agnostic—far from it—but "there are in earth more things than are dreamed of in our philosophy," and Mr. Statham endorses this dictum of Hamlet, while Mr. Eidlitz, in his zeal for ultra-Gnosticism, appears to ignore it.

At a great meeting of scientists at Oxford, not long ago, Lord Salisbury made a speech (which Mr. Eidlitz and other Gnostics of his school would do well to read) pointing emphatically to the great infinitude of mystery, at the outer fringe of which our feeble science clings, leaving the vast and illimitable depths of truth untrodden, for future explorers throughout all time to penetrate more and more.

Now, it never seems to have occurred to Mr. Eidlitz that the science which he proposes to regard as the one absolute gauge and umpire of all architectural beauty and truth is itself not full grown, is not even in its proper infancy, but is still in undeveloped embryo.

He argues that decoration should be employed to emphasise construction. According to this principle every man, woman, and child should have been tattooed by Nature to look like living skeletons.

He appears to think that we are able to determine the proportions of a pillar merely from our knowledge that its strength is as its sectional area. He appears not to know that neither he himself nor any man living has science enough correctly and exhaustively to analyse and calculate the stresses of even so "simple" a structure as a plain brick pillar; a fact of which he may satisfy himself by reference to the recent experiments by the Science Committee of the Institute.

Let Mr. Eidlitz demonstrate exactly how much, and by what law, the length of a pillar relates to its sectional area in governing its strength. Let him so analyse the pillar stresses and strains as to show their true conoids of persistent compression, with their proportions, functions, and limitations; and how, where, and why the presence of compression involves the co-ordinate presence of tension in every fibre or crystal, and in every group of fibres or crystals, and in every structure as a whole, and in every joint and portion of that structure. He will find, before he gets far beyond the narrow outer fringe of the subject, that he has plunged into a labyrinth and lost himself.

It is perfectly true that our mechanical science, crude as it is, is quite indispensable to the architect and engineer; and no man can be worthy of the highest rank in his profession who is not quite abreast of the mechanical science of his day and generation. But our modern science is not the same as the wisest men accepted in ages bygone, and is still more widely different from that greater science which will open to the minds of future investigators.

Yet our inward certain power of recognition of the Beautiful is *always with us*, as it was with our forefathers, and will be with our children of generations yet unborn—we possess this gift from Heaven, and it is indeed "a joy for ever." As Mr. Statham truly says, it "defies analysis." It differs from our reasoning faculty; for *it belongs to our divine power of love*. The animal and mineral kingdoms of Nature are not more distinct from each other than are these two kingdoms in our minds and hearts. Both, indeed, are of God's ordinance. But, in the sequence and order of creation and development, the power of intuition always precedes the power of scientific reasoning. Our practical knowledge anticipates our theoretic science. We learn first how to *do* things. And we learn later *why* we do them so; and also how to philosophise in general about them. In our everyday lives and motions we exercise, consciously or unconsciously, practical skill in many respects hundreds of years ahead of the most advanced dynamical science of this age. It may be possible some day for men to bring quite together in all departments of industry the kingdoms of theory and practice. At present they are in most cases widely separated, and the Rule of Thumb of necessity controls most of the work of the world. It will be found, whenever theory and practice do come together, that their disparity was in most instances less the fault of the practice than of the theory.

It is true that in some departments of life theory and practice have already reconciled their former differences; and this is so, to a very large extent, in the great civil engineering works of modern days; some of which, by the way, rank amongst the ugliest specimens of human industry, and thereby heavily discount Mr. Eidlitz's central idea that perfection of construction involves naturally the perfection of beauty. That this idea is utterly fallacious can be proved by the fact that a rolled steel joist, proportioned as it generally is, with due regard to scientifically economical distribution of material, to withstand bending and shearing stresses, is, notwithstanding its scientific correctness, essentially ugly; almost as ugly as a pig or monkey—both perfect physical constructions, by the way. The face of an extremely ugly person may be, in its physical construction and health, as perfect, or more so, than that of the loveliest woman.

One does not need to argue further to show that the philosophy of Mr. Eidlitz is even more faulty than that modern mechanical science which, with all its shortcomings, he would fain exalt above our highest and holiest intuitions and visions of the Beautiful.

The best way for Mr. Eidlitz to test his theory is, not to proclaim it on merely theoretic grounds to a company of cultured men, whose everyday experience continually assures them of the vanity and emptiness of theorctic utterances without a backing of real facts, but to practise it for himself; and a modicum of vulgar practice would bring down his structure of ill-founded argument like a house of cards.

The most impartial critic of Mr. Eidlitz's writings must see that, though they contain much evidence of painstaking desire for originality, generally speaking, "what is new in them is untrue, and what is true in them is not new." Both his mind and pen seem to have wandered up and down many a weary mile in quest of the Holy Grail of all Art Inspiration, only to leave the author and his readers in "a land of sand and thorns."

The Gnostic who presumes to dogmatise about the Beautiful is scarcely less offensive to artistic souls than he who dares to cut and dry for their behoof the principles of Religion. But we need not by such Gnosticism be driven to the other extreme, seeing we have a reasonable, and far preferable, alternative in the attitude of Mr. Statham, which leaves us free to obey and follow Science, while refusing to allow her to usurp the throne from old time and for all time sacred to Beauty and Art.

Two Disclaimers.

From H. Heathcote Statham [*F.*]—

I have read with considerable edification Mr. Eidlitz's long communication on "The Educational Training of Architects." I am afraid I am entirely unconvinced by his arguments, but I congratulate him on the possession of one very valuable weapon in controversy, viz., a facility in manipulating the views of his opponents. In every one of the numerous references which he has made to my supposed opinions, he has contrived to attribute to me views and opinions which are not in fact mine, either by quoting isolated passages apart from the context, which would have modified their scope, or by translating my expressions into his own language. Life is too short to enter into this kind of controversy; I must be content with asking those who may do me the honour to attach any importance to my opinions to be kind enough to read me in the original and not in Mr. Eidlitz's translation.

I might have said a good deal as to the importance, or rather the absolute necessity, of drawing out modern architectural designs in plan, section, and elevation, before proceeding with the building, and the reasons for it; but I have gone into the subject fully in the first chapter of a small book on "Modern Architecture," which will be published in two or three weeks, and to go into it here would only be writing down again what I have already got in type.

It does not appear to me likely that any of this theorising about the true ends and methods of architectural education will do anything to improve architecture. What is wanted is that people should give more thought to the architectural treatment of buildings, and that they should be allowed time for thought, which very seldom is allowed them. The idea that a new life will be put into an art by adopting a new and more logical method of studying or regarding it is an illusion which has often manifested itself before. There have been persons who have thought that there would be a great new impulse given to musical creation if only they could invent and bring into use a new and more logical system of notation, or a revised theory of harmony; but none of these theorists have added anything to the art, or enabled any one else to do so. As Rude, the sculptor, was fond of saying—"*La grande chose pour un artiste, c'est de faire.*"

From Arthur Cates [*F.*]—

The advancement of "The Educational Training of Architects" is not likely to be much assisted by the rejoinder of Mr. Leopold Eidlitz to the comments on his Paper graced by that heading, as expressed in the seven pages of the Journal, which, with generous hospitality, have been afforded him to enforce his views.

I am only concerned with the last page (p. 468), on which Mr. Eidlitz professes to deal with the comments which I ventured to make on the general question, as likely to be affected by his proposed "text-book," &c., and greatly regret that he should apparently have so completely misapprehended what I had thought to be clearly stated, and should have exercised his imagination to paraphrase, and, I think, even travesty my expression, so as to make me apparently express ideas which had no existence in my mind, and cannot, I think, be in any way deduced from my words.

It would be futile to continue discussion in this manner, and I therefore only refer any who may be interested in this "rejoinder" to my comment, as printed on pp. 220–222, not one word of which is affected by the "rejoinder," and repeat that "the skill and talent of the architect are displayed in his artistic and scientific use of the materials to be employed in accordance with their qualities; and in their application to the best advantage for convenience, strength, and beauty; no 'text-book'—no 'architectural scales'—no 'combination of single cells into piles' will enable the architect to effect this."

HOLYWELL PRIORY, SHOREDITCH.

By E. W. Hudson [*A.*].

Part I. (History) [*continued from page* 471.]

PRIORESSES.

A COMPLETE list of Prioresses cannot be gathered from existing records, but the following names are culled from the *Mon. Ang.* (ed. 1823–30):—

Clementia	between	1189 and 1198.
Agnes	occurs	1239.
Juliana	,,	1248 (32 Hen. III.)
Benigna	,,	*Temp.* Hen. III.
Isabella	,,	1261.
Christiana	,,	1269 (53 Hen. III.)
Magdalena	,,	End of thirteenth century.
Lucia	,,	3 Edw. III.
A sister of Matilda Mountague	,,	1341.
Isabella (Norton)	,,	1390.
Clemencia	,,	23 Hen. VI.
Elizabeth (Prudde)	,,	1474.
Clemencia	,,	1521.
Joan (Lynde)	,,	7 & 26 Hen. VIII.
Sibilla (Nudigate)	elected	1535, four years before the suppression, received £50 pension on surrender.

A list of the Prebendaries, with a brief account, will be found in Ellis's *Shoreditch*, p. 227 (taken from Newcourt's *Reper.*), extended from 1708 down to 1792.

POSSESSIONS.

Some of the earlier possessions of the Priory may be briefly summarised as follows:—

Temp.

Henry I. The well and site given by Robert Fitz Gelran, *ante* 1127.

Stephen. 100 acres of woodland given by Robert de Rothomago, who had them from the Duke of Gloucester.

Richard I. (*anno* 1) confirmed the site already given to the nuns, with some land given by John de Hilewit.

3 acres given by Walter, Precentor of St. Paul's,[*] who was Archdeacon of London in 1197.

Land in Camberwell.

The Church of Dunton, Beds, with all its appurtenances—viz. the vicarage and chapel of Melo (now destroyed).

All rents in the city of London mentioned in the charters of endowment.

Richard I. (*anno* 6) confirmed to them half a rood of land at Dunton, the gift of Geoffry Chamberlayn.

Half a rood, the gift of Geoffry and William de Melicho.

One rood at Hinxteworth (*Hinxworth*), Herts, the gift of Theobald, the son of Fulk.

The Church of Wurelew by Gunnora de Veloniis.

The town of Luiton (part of the Parish of Leyton), Essex, the gift of the last named.

John. Part of the Manor of Gatesbury, with 43 acres besides, the gift of John of Gatesbury.[†]

A garden without Cripplegate, the gift of Juliana Gardin.

Henry de Hallingbury released to the nuns all his right and claim in the towns of Henxworth and Dunton by deed (*Brit. Mus.*).[‡]

The nuns also possessed tenements in Southminster; the advowson of the Church of Brampton, Suffolk; some interest in the Church of Trumpington, Cambs, of which they had the patronage, and also owned the rectory; the latter granted by Simon, Bishop of Ely, *temp.* Ed. I. In 1535 Sibilla, Prioress, transferred to the Bishop of London the next turn of presentation to the vicarage.

The Manor of Camberwell Ferne (Fryern) was part of the nuns' possessions. Ten acres there were given by Nicholas Poyntz, and the nuns afterwards purchased more.[§] Solomon de Basing gave them an estate called Newelersfield, and ten acres besides.

Some land at Deptford was owned by them, for a valuation taken in 1544 shows that the Priory derived an income of £15. 4*s.* per annum from Camberwell, Peckham, and *Deptford.* (*Harl. MS.* 605.) It was a detached portion in Kent, of "Camerwell" Manor, in Surrey.

They had also a manor at Ash, near Wrotham in Kent, called Halywell-in-Ashe. The prioress had certain liberties granted for this estate in 14 Ed. II. The Kent Subsidy Rolls, *temp.* Ed. III., show that the nunnery held these possessions.[‖]

Land at Alsewick, Herts, was claimed by the Priory, but the ownership of it was in dispute. A deed dated 1217 sets forth that it had belonged to the Prioress and Convent beyond the memory of man.

There are other small possessions on record *e.g.* Elmley (or Emley), Kent; but I find no detailed account of either Bishop Gravesend's or Lovel's bequests. Maitland says Sir Thomas gave "a considerable Benefaction in land."

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[*] A claim for freedom from toll was claimed on account of these lands, but was disallowed in 14 Edward II.

[†] Viz.: 35 acres called "Budings"; 1 acre of meadow; 7 acres in parcels of 3 and 4; a parcel of land called "Tatenhole."—*Ellis*, p. 190.

[‡] Copy in *Gent.'s Mag.* vol. lxv. p. 369.

[§] Lyson's *Environs*, vol. i. p. 71.

[‖] Hasted, *Kent*, vol. i. p. 283.

DEEDS.

1217.—A deed dated July 1st, relating to the land at Alsewick, Herts.

1228 (?).—A charter of Wm. de Ewell, prebendary of Vinesbury, otherwise Haliwell (without date), some time in thirteenth century. One of the witnesses was Domino Thoma de Basnigge (of Bagnigge in the Fleet Valley, Middlesex).¶

1239.—A deed dated Aug. 4th, from the Prior and Convent of Holy Trinity, granting a meadow, pasture land and mill, in Alsewick, Herts, to the Prioress and Convent of Haliwell, for which they paid 7 marks.**

1245.—An agreement made between the Prior of Bermondsey and the Prioress of Haliwell relative to tithes at East Dulwich.††

The full *Latin* TEXT of the following deeds, preserved in several record offices, is given in *Mon. Ang.* vol. iv. p. 393 *et seq.* ed. 1823–30:—

1. *Carta regis Ricardi primi Donationes recitans et confirmans.* 7th Oct. Year 1 of reign.
2. *Alia carta ejusdem Regis.* 11th April. Year 6.
3. *Carta Rogeri de Brahi virgate terræ in Dunstune.* No date. *Circa* 1181. Seal attached.
4. *Bulla Gregorii Papæ de annua Pensione in Ecclesia de Wellewes.* 9th Jan. Year 11.
5. *De Terris in Camerwell.*
6. *Carta Prioris et Conventus Sanctæ Trinitatis Londini, de Terris concessis Monialibus de Haliwell.*
7. *Valor Ecclesiasticus, temp.* Hen. VIII. £300. 19*s.* 5*d.*
8. Sibilla Newdigate. *Bequests.* 9th Aug. 29 Hen. VIII.
9. Particulars for *Grants, re* Henry Webbe (see Appendix).

In the BRITISH MUSEUM:—

Carta Laurentii fil. Agnetis de Dunton. Virgat. terr. in Dunton. No date (seal).

Carta Galfridi et Wilhelmi de Mulenho. Terra in Dunton. No date (seal lost).

Another of William, son of above Galfrid. *Virg. terr. in Dunton.* No date (seal with Galfrid's name).

Carta Radulphi Starling (and others), *re* same, mutilated (three seals appended).

Carta Thomæ de Terefield. De terr. in Dunton. No date (broken seal with eagle).

Carta Ricardi de Langeford. De terr. in Brauhing. No date (seal).

In THE TOWER (?) (*i.e.* in 1798):—

Carta Ricardi primi Ecclesiæ Sancti Joh. Bap. de Haliwell (see *Mon. Ang.*).

Stevens gives a list including three as in the British Museum:—

Carta Henrici de Hallingber de Terris Hinckesleworth et Dunton.§§ Date 1. Ed. I. 1272 (seal attached).

Carta Galfredi Camerarii. Terra in Dunton. Date 1239 (inscribed seal).

Carta Roberti de Chaumberleyn, &c. Terra in Dunton. No date (seal).

In the AUGMENTATION OFFICE|||| (*i.e.* 1798):—

Inter alia.

Eliz^th^ Prudde to Ralph Josselyn, Alderman of London, *Lease.* Mar. 3rd, 1474.

Sibille to Thomas Legh. *Lease.* May 27, 29 Hen. VIII. (seal "T. L.").

The same to Richard Manners. April 1, 30 Hen. VIII. (shortly before the dissolution).

Also others between the Prioress and others, in 7, 17, 21, 29 (*and* 37th) years Hen. VIII.

The grants to Harpur and Webbe.

The disposal of some of the property was as follows:

"A messuage and garden *within* the precincts
1542. were granted (April 18th 33 Hen. VIII., according to Dugdale) to George Harpur, Esquire, *the rest of the priory-site still remaining with the Crown.*" Ellis, however, says he found a record in the Augmentation Office showing that "A messuage and garden *with* (query, *within*) the site of the Monastery were granted to George Harpur, March 16th, 33 Hen. VIII.; and the site of the monastery and appurtenances to Henry
1545. Webbe by letters patent dated Aug. 5th, 36 Hen. VIII." (This being only part, the supplemental grant was Sept. 23rd, after the Queen Consort's petition already given, p. 469 *ante.*)

The dates differ in the two references to Harpur's grant as above, and it seems clear that Harpur never had all the site; probably not more than one messuage *within* the curtilage, the rest remaining with the Crown until it was granted to Webbe, otherwise the Harpur grant must have been revoked. Solomon de Basyngs' bequest was granted the same year to Robert Draper, Page of the Jewels.

The Manor at Ashe, Kent, was granted to Sir
1546. Martin Bowles, Kt., who died 1566.

A record dated June 19th, 37 Hen. VIII., in the Augmentation Office, shows the Priory had an enclosure near Pitfield Street, the reserved rent being 8*s.* 4*d.* per annum.

Edward VI., June 10th, 1547, re-granted to the
1547. Dean and Chapter of St. Paul's Cathedral some messuages in Norton Folley (Folgate), part of the property once belonging to this Priory. The annual rent was three shillings.

What tenure the resuscitated Priory enjoyed under Mary and Elizabeth is uncertain, but the fee of the original site at all events did not revert to the Church in perpetuity, if at all. The Manor itself, however, continued to be vested in the Dean and Chapter of St. Paul's Cathedral, as hereafter to be mentioned.

APPENDIX.

Halywell Prioratus.

Memorand. That I, Henry Webbe Esquier, to purchas of the Kings highnes the premysses, being of the yerely value of 11*l.* In witnes whereof I have sealed and subscribed this bill w^t^ myne owne hande, day and yere conteyned and specified in the rate above mencyoned. By me,

HARRY WEBBE.

¶ *Liber Albus.*

** *Mon. Ang.* vol. iv. p. 391, ed. 1820-30. †† *Mon. Ang.*

§§ Copy in *Gent.'s Mag.* (query, seal incorrectly shown). See note, *ante.*

|||| Established 27 Hen. VIII. c. 27; dissolved and re-established by Let. Pat. 38 Hen. VIII.; confirmed by statute 7 Ed. VI. c. 2; abolished and annexed to the Exchequer by Let. Pat. 1 Mary. The office was near New Palace Yard in 1739, and removed about 1800 to King's Bench Treasury Office, St. Margaret Street, Westminster. In 1843 removed to Carlton Ride by order of the Master of the Rolls. (Thomas's *Records.*)

[TRANSLATION]

Parcel of the Lands and Possessions of the late Priory of Nuns at Haliwell in the County of Middlesex now surrendered and resigned.

The site and below [*beyond*] the site and precincts of the said late Priory in the County of Middlesex
is worth in . . . .

Estate [*Firma*] of one messuage, lying on the West side of the entrance to the church, adjoining the **lower gate**, with a **courtyard, dwelling-rooms, kitchens, "the lodgings,"** and buildings both above and below (*ground*), together with gardens lying to the north of the said messuage, adjoining the said courtyard, and dwelling-rooms and all buildings adjoining the west end of the said church, and extending northwards from the aforesaid lower gate to the end of the stone wall, being in length from the aforesaid gate one hundred and forty-eight statute feet, and from the same end of the wall aforesaid, eastwards, [*the estate*] of all houses and buildings, together with a certain house called the "**Fraytrye**" both above and below (*ground*), extending along the outer walls of the said houses and of the said house called the "Fraytrye" as far as the entrance at the East end of the said house called the "Fraytrye," and from that entrance southward to the **cloister** there; and also the estate [*Firma*] of the whole of the said cloister as far as the walls of the church there, with the lands and soil within the aforesaid cloister, and the gardens called the **Ladyes Gardeyns**, lying at the back of the **dormitory** there, rented at £4 per annum; and the ground [*Firma*] of the dovecot-garden called the **Prioresse Gardeyn**, with the dovecots therein, rented at 20*s*. per annum; and also the estate [*Firma*] of a certain piece of land called the "**Covent Orchard,**" estimated to contain one acre of ground, rented at 20*s*. per annum, all and singular of which premises are held and occupied by Henry Webbe as parcel of a certain demise made out to him, and sealed with the Seal of the Court of Augmentations of Revenues falling in to the royal Crown, dated on the tenth day of December in the 30th year of King Henry the Eighth, to wit from the Feast of St. Michael the Archangel then last past for twenty-one years, paying thereon as above, £6 per annum.

The estate [*Firma*] of all **barns, houses, brew-houses, granaries, stables** and all other buildings lying to the West of the said late Priory below [*beyond*] the lower gate of the same, together with all land and soil in any way enclosed between the walls there from the said lower gate, excepting a stable lying close to **Carleton's Lodginge**, and a barn roofed with thatch lying behind Carleton's Lodginge aforesaid, demised to Richard Maners, Knight, by indenture, for a term of years; together with the estate [*Firma*] of the soil and land, of the **church, chapter-house** and dormitory there, and the soil of a **chapel at the North end of the Fraytrye**, and the **Chapel-yard, gardens** and all buildings therein, and also a house called the **Wasshing House**, now in the tenure of . . . . Forster gentleman, and now rented at £4 per annum.

The estate [*Firma*] of all the stable there, above excepted, being in length from North to South fifty statute feet, and in width from East to West twenty statute feet, and abutting on the east on the **mansion-house** of the said late priory, and on the West on a certain house called the **Olde Duffehouse**, and on the North on a brewhouse there, and on the South on a certain house called the **Workehouse**, together with a barn called the **Otebarne**, above excepted, situated to the West of the said stable, being fifty-four statute feet in length and twenty-four in width, and abutting on the East on a garden in the tenure of Katherine Carleton, widow, and on the West on Finsbury Field, and on the South on a garden in the tenure of Joan Powes, widow, and on the North on a dovecot called the Oldedouffehouse, demised to Richard Maners late Esquire, now Knight, by indenture dated the 1st of April in the thirtieth year of King Henry VIII, to wit from the Feast of the Annunciation of the Blessed Virgin Mary then last past for the term of twenty one years next following, paying thereon an annual rent of £1 in equal portions at the Feasts of St. Michael the Archangel and the Annunciation of the Blessed Virgin Mary respectively.

Memor^{d}. to res've all the leade of the p'missez, and the leade and tymber of the Cloyster, the stone of the walls of the churche, the stone, tymbr, tyle, glasse, and yorne of the chappell on the backesyde of the Fraytree.

Memor^{d}. also to res've all the leade yet remaynying apon a **gallerye** whiche dothe cover the south yle of the churche leding from **my Lorde of Rutlands lodging** to **S^{r} Thoms Lovells chappell**, and to excepte the walls of the same yle in case the leade there shall remayne.

Memor^{d}. further to res've always free egresse and ingresse to and from the greate courte or yarde,* w^{t} the comodytyez of the water and **welle** there for the tenn̄ts and inhabitnn̄ts for the tyme being dwelling w'in the house or tenement now in the tenure of the said Carleton, or any other tenn̄te or inhitaunt y^{t} heretofore have used to have recourse thither.

Also the primyssez were vyewed and s'veyed as above, the 28th day of Auguste, in the 36th year of o^{r} soveigne lord King Henrye the VIIJth by Walter de Henley attorney, Nycholas Bacon solycyto^{r} and Thoms Myldemaye audyto^{r} of the Courte of the Augmentacons of the Revenuez of the Kings Crowne, appointed and assigned by S^{r} Edward North Knyght, chauncello^{r} of the same Courte, to s'vey the p'myssez, by vertue wherof I have made thiese pticlers according to the same s'veye, which ben the first pticlers therof syth the said s'veye.

Memor^{d}. it is reasonable that the purchaser shuld have suffycyent words in his graunte to have a way, and free egresse and ingresse into the pmyssez through the **grete gatehouse** and the yerde there adjoynyng to my Lorde of Rutlands mancon,† as of oldetyme hath ben accustomed.

Ex^{r} ꝑ me,
Thomam Mildemaie auditorem

P'mo die Septembr' anno 36th.
ꝑ **Henrico Webbe** ar.

The clere yerelye valowe of the messuage and other thapp^{r}tennes above mencyoned in the tenure of the sayde Henrye Webbe by yere ys 6*l*. Wherof deducted for the Xth. 12*s*. and so remanyth 5*l*. 8*s*.; which, rated at 15 yerez p'chace, dothe amounte to the some of 81*l*.

The yerelye valowe of the reest conteyned wthin the pticlers above mencyoned ys 5*l*.; which, rated at 11 yerez p'chase, doth amounte to the some of 55*l*.; and so the hole some for the p'chase of all the pmiss' ys 136*l*. To be payd all in hand.

Memor^{d}. the kyng to discharge the pmiss' of all incombrunces, except leasez and the tenthe before res'ved, and except suche charge as the fermors ar bounde to discharge by force of there indenturez.

Memor^{d}. allso to res've all the leade opon the churche scite and other housings of the said late nonrye of Holyewell.

Robert Southwell.
Thomas Moyle.

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* Qy. Identical with "a courtyard" before mentioned.

† Qy. Identical with "Mansion-house" before mentioned.

(*To be continued.*)

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